University of Bedfordshire

AN INSIGHT IN TO THE AWARENESS LEVELS ABOUT HEPATITIS C IN THE INTERNATIONAL SOUTH ASIAN STUDENTS OF UNIVERSITY OF BEDFORDSHIRE, UNITED KINGDOM.

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ABSTRACT:

Migration all around the world is at its peak and it has brought a lot of challenges for Public Health system due to changing epidemiology of infectious diseases associated with migration. The paper is based on the possible un-noticed spread of Hepatitis C from South Asia to the United Kingdom because of low awareness levels of this disease in the immigrants especially students. The disease is more dangerous in contrast to Hepatitis A and B, as there is no vaccine to provide immunity against the Hepatitis C virus (HCV). Moreover, the costly and toxic treatment options can help in only fifty percent of the patients. It is thought that student's involvement in risky behaviours make them more vulnerable to contract and transmit the disease.

A Quantitative research approach has been used to conduct a cross-sectional, self administered questionnaire survey at the University of Bedfordshire, Luton, UK to know about the knowledge of Hepatitis C in students. A total of 71 International South Asian students (53 males and 18 females) were included in the survey by snow ball sampling. Data was analysed by SPSS version 12.0 software (95% C.I, $P<0.05$), using chi-square test for statistical significance. Self reported knowledge of Hepatitis C was 69% and it decreased to just 39.4% self reported knowledge for symptoms and 38% for the self reported awareness about transmission of disease. 74.6% participants seemed to know that the disease can be transmitted by contaminated needles and 69% recognised blood as route of transmission for the disease. Only 64.8% of the participants were able to relate jaundice with possible Hepatitis C infection. Misconceptions and concerns about transmission of disease by close contacts such as kissing were shown by majority of the participants. Some participants (59.2%) knew about the transmission of HCV through contaminated shaving blades while only few (32.4%) agreed that it can be transmitted by sharing toothbrushes. Just 29.6% participants knew about sexual transmission and only 9.9 percent participants realised that there is no vaccine for the protection against HCV. Bangladeshi and Sri-Lankan were amongst least aware ethnic groups; Participants <30 years and males had least knowledge about the disease.

Finding of the study are suggestive that the overall knowledge of Hepatitis C among International South Asian students is extremely low and insufficient. They might be at a high risk of contracting and transmitting the disease so they should be treated as high risk group for the disease. There is an urgent need of campaigns to improve the awareness levels about transmission of Hepatitis C in this group.

Keywords: Students, South Asians, Immigrants, Hepatitis C, Risky behaviours, Health awareness.

DECLARATION:

I, the undersigned, acknowledge that this dissertation undertaken within the University of Bedfordshire is entirely original and written by myself and within the University Regulations.

Student's Name: Muhammad Waqar

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Date: 05.10.2008

DEDICATION

This project is dedicated to my parents, as subsequent to the God, they are the people in this world have supported me by all means….all through my life.

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LISTS OF ABBREVATIONS

HCV - Hepatitis C Virus

WHO - World Health Organization

UK - United Kingdom

US - United States

HAV - Hepatitis A Virus

HBV - Hepatitis B Virus

RNA - Ribonucleic acid

DNA - Deoxyribonucleic acid

NHS - National Health Service

TB - Tuberculosis

NCI - National Cancer Institute

IDUs - Intravenous drug users

PCT's - Primary care Trusts

MCNs - Managed Clinical Networks

CHAPTER 1:

This chapter will provide an introduction to the problems and its background. Then we will be looking at the rationale of study and aims/objectives of undertaking this study.

1.1. Introduction:

World has become a global village and the excessive interactions in terms of economic and labour markets around the world have brought a lot of changes in the policies of countries to deal with these changing patterns. The worldwide migration and travelling is increasing progressively and it has nearly doubled in past four decades, from 76 million migrants in 1960 to 175 million in 2000 (Lancet student, 2007)**.** There has been a pronounced impact of migration on Public Health and Healthcare systems all over the world. Immigrants bring a valuable skills and wealth of knowledge with them to contribute for the better economics of the countries. But at the same time, some unfortunate carriers of infectious diseases may play a big role in the migration of diseases with them. So these increasing migration patterns demand diverse and flexible Healthcare systems to manage the changes in composition of population. In other words, the challenges to the public health are increasing with the increase in migration rates. In past few decades, some diseases such as AIDS and Tuberculosis have shown a big impact on the Health systems of world due to the migration of the carriers of disease.

Hepatitis C is an emerging global problem as about 170 million people are infected by this disease worldwide while it is adding 100, 000 new cases of liver cancer per year to the global health burden (Poynard *et al*, 2003). In the United States, the Centre of Disease Control and Prevention reported in 2005 that there were 25-40,000 cases per year between1988-2003 and the number of people ever infected with Hepatitis was approximately 4 million while patients developing chronic hepatitis were approximately 3 million. Hepatitis C virus (HCV) is a serious threat to the developing countries because it's long term silent behaviour in the body and symptom less spread from one person to another which may go unnoticed until the development of complications. In developing countries, the use and reuse of contaminated needles for therapeutic, cosmetic and drug injecting practices seems to be the biggest hurdle in controlling the spread of disease. Many cases also remain unreported due to factors such as lack of screening/diagnostic services and low level of awareness to come forward for voluntary screening. As a result, we can expect a lot of people walking in the society as the carriers of the deadly disease which can only be successfully treated in 50 percent of the cases. The prognosis of treatment is even poor in cases of late diagnosis. Despite continued research, yet the vaccine for protection has not been discovered and it has made the problem, more serious. According to the World Health Organization (2000), the prevalence to Hepatitis C in South-East Asia is much higher (2.05%) as compared to Europe (1.03%).

Currently, the immigrants arriving from south Asian countries to the United Kingdom (UK) are not screened for any of the blood borne infections like Hepatitis C and HIV/AIDS. This lack of screening may play a big part in changing epidemiology of disease and today's epidemic of one region could be a future risk to other region. The

Migration Watch UK (2003) pointed out that there is substantial number of students, work permit holders and asylum seekers, who are coming in to the UK without compulsory screening. This means that a very considerable burden of chronic infective and related conditions is being added to the country's ills each year. Despite passing 5 years since this statement was made, still there is no system in place for screening these people. In researcher's view, this seems more like inviting the deadly diseases in to the UK. Along with Health risks to community, this may also prove to be a big financial burden for UK, as the cost for treatment for one patient of Hepatitis C ranges from 10, 000 to £ 12, 000 pounds. These expenses are even bigger, if other costs of hospital admissions and prolonged stay at hospitals are also included. The possibility of requiring liver transplantation in later stages of disease, adds even more to the costs and problems for the health care systems (Migration Watch UK, 2003).

Arriving from Pakistan to stay in the UK for Post graduation studies has been a valuable experience for the researcher. On many occasions, researcher closely observed the differences in attitudes, believes and behaviours towards Health problems in the UK and kept on comparing those with the situations back home. UK is a well developed country than countries of South Asia, the health systems are much organised and as a result of tremendous efforts, generally the basic awareness about health issues is much better than the people of underdeveloped countries and developing countries. While interacting with many recently migrated people to UK, a difference in Health behaviours and attitudes has been obvious to the researcher. Immigrants are at a disadvantage, as they may not familiarize themselves much quickly with the changing environment and sometimes may not get deserved attention on parts of targeting population groups. Now looking back at the Researcher's clinical experience as a House officer in a Teaching Hospital in Pakistan, where routine Laboratory test including Hepatitis B and C are done for every patient undergoing surgical procedure. The observation of 3 years working in those settings revealed that approximately 1 in 5 patients is positive for HCV. Even young people and children were not safe from this disease.

The researcher correlated the high prevalence of the disease in Pakistan (and other south Asian countries) with the large numbers of South Asian Immigrants/ students travelling from South Asia to the UK and concluded that Hepatitis C can be a possible threat for future of the UK. Also taking in to the account here, the strong connections of British South Asian community with home countries and their frequent travelling to this region makes it even more risky. This alarming correlation of factors has constructed the research question for this paper. Initial review of the literature revealed that the statistics also support the possibility of problem. Presently, Hepatitis C is a major problem for some south Asian countries like Pakistan, India and Bangladesh. While it is uncommon in the UK as compared to most parts of the world but suspicions of large number of undiagnosed cases are there. Moreover, continuous rise in the number of diagnosed cases has been observed in past few years.

South Asian immigrants as a whole, make a big population between ethnic minorities in the UK. Bearing in mind, the natural cycle of disease, it is not beyond imagination that it can be really dangerous if people do not have enough knowledge about the common symptoms and routes of transmission of the disease. The knowledge can help the people to keep them protected as well others around them. Initiating an urgent investigating in this area is needed to assess the awareness levels of the

Hepatitis C the south Asian immigrants in the UK. The problem is on a wide range and is affecting millions of people. There is a demand of an extensive study to look in to the problem at the level of south Asian immigrants. Due to financial and time restrictions, this cross sectional survey has been designed to gain more knowledge about a part of South Asian immigrant group that is South Asian students of a university in the UK. Students have been selected because of well documented risky behaviours in the students which put them at more risk of contracting and transmitting the disease.

1.2. Background:

HCV is endemic in most parts of the world, although there are significant geographic and temporal differences in the incidence and prevalence of infection. Africa and Asia have the highest reported prevalence rates; while industrialized countries in North America, northern and Western Europe and Australia have a lower prevalence. Nations with relatively low rates of HCV seroprevalence include Germany (0.6%), Canada (0.8%), France (1.1%), and Australia (1.1%). Low, but slightly higher seroprevalence rates have been reported in the USA (1.8%) and Japan (1.5–2.3%) (Torre *et al*, 2006).

In the United States, Armstrong *et al* (2006) tried to explore the prevalence of Hepatitis C. The study of three years duration (1999-2002) included 15,079 participants. The findings suggested the presence of HCV infection in 1.6% (4.1 million) population and nearly 1.3% (3.2 million) population with chronic hepatitis C infection. Hepatitis C is the leading cause of liver cirrhosis and the most common cause of liver transplantation in United States. Hepburn and Lawitz (2004) found the prevalence of disease in Haiti to be 4.4% and mentioned number of sexual partners and intravenous drug use as the risk factors while seroprevalence of HCV in Tanzania has been found to be 1.5% (Matee, Magesa & Lyamuya, 2006). A cross sectional survey was carried by Montella *et al* (2005) in Italy between 2000 and 2002. Total 5391 individuals were included in the study. The composition of study was as follows: 1972 general practitioner (GP) patients and 781 employees of the National Cancer Institute (NCI) of Naples (low-risk groups); 524 male prisoners, 1436 intravenous drug users (IDUs), and 678 haemodialysis patients. Overall HCV seropositivity rates ranged from 6.4% among employees of the NCI to 37.4% among male prisoners. The study played an important role in widening the view of prevalence which was thought to be limited to IDUs and blood transfusion recipients only. Recently another study has discovered the high prevalence of HCV in Non-Injecting drug users, as the study population is this groups did not have any identifiable risk factors for Hepatitis C (Macias *et al*, 2008).

The above finding are suggest that it would be wrong to assume that the disease is only associated with intravenous drug users and populations without clearly defined risk factors could also be at the risk. Along with need of further research to identity other ways of transmission, there is also a need of the assessment of levels of awareness in high risk populations other than IDU's.

Before moving further any further in to the exploration of topic, let's have a look at the characteristics of the Hepatitis C as a disease.

1.2.1 What is Hepatitis C?

Hepatitis is a general term meaning inflammation of the liver and can be caused by several mechanisms, including infectious agents. Viral hepatitis can be caused by a variety of different viruses such as hepatitis A, B, C, D and E (World Health Organization, 2002). Although the first demonstration of the cases of transfusion-associated hepatitis were reported in 1975 when it was described that the hepatitis is neither because of Hepatitis A virus (HAV) nor Hepatitis B virus (HBV). These were the only two known human hepatitis viruses at that time (World Health Organization, 2002). For a long time Hepatitis C was referred to as parenterally transmitted "non A, non B hepatitis" until identification of the causative agent in 1989. Humans and chimpanzees are the only known species susceptible to infection as both species develop similar disease (World Health Organization, 2000).

1.2.2 Hepatitis C Virus (HCV):

It is estimated that about 3% of the world's population have HCV (World Health Organization, 2002). The structure of the HCV is like most of other complex viruses. It has a core of genetic material (RNA), surrounded by a protective shell of protein, and further encased in a lipid (fatty) envelope of cellular material. However, the fact that the genetic information of the virus is stored in RNA, not DNA, has important consequences in the life cycle of the virus, and gives hepatitis C its dangerous ability to mutate (Heart Hepatitis and AIDS Research Trust, 2008).

Genotypes and their distribution:

There are six different genotypes of the virus which have been subdivided in to fifteen subtypes. A person may be infected by one genotype or a mixed infection of more than one genotypes. The testing to genotype is important in terms of determining the severity of disease as well as deciding for treatment options. Some genotypes may have good response to the treatment and may cause slow liver damage while others may have aggressive nature.

- Genotype 1 is the most common strain in the United States.
- Genotypes 1, 2, and 3 are found worldwide.
- Genotype 4 is found throughout northern Africa.
- Genotype 5 commonly is found in South Africa.
- Genotype 6 is common in Asia (Yahoo, 2007).

1.2.3. Symptoms of Hepatitis C:

First exposure to Hepatitis C virus usually does not exhibit any well defined symptoms in most of the people. In Some people, there might be a short period of feeling unwell. Only few cases may show obvious and well defined symptoms that is jaundice. Jundice is the yellow discolouration of skin and eyes and can be noticed easily by patient or the people around (National Health Service, 2008). The symptoms of long-term infection may present in different forms. The infected person may not

show any symptoms through out their life because virus damages the liver, mildly or moderately in them with or without symptoms. If the symptoms are felt, they may include generalised weakness, abdominal pain, muscle aches and weight loss. In some cases, the chronic hepatitis infection may complicate and lead to liver cancer or even liver failure. These patients usually present with multiple serious and life threatening complaints like ascites and variceal bleeding (National Health Service, 2008).

1.2.4. Progression of the disease:

The average incubation period of the HCV is 6-7 weeks, although it ranges from 2-26 weeks. Approximately 30-40 percent patient develop clinical signs and symptoms. Out of all the newly infected cases, a small number of patients (15%) are able to clear the virus naturally (Centre of Disease Control and Prevention, 2005). While in the remaining 80-85% patients the disease becomes chronic. Out of these chronically infected people, in 20-30% people disease progresses to liver cirrhosis and in 1-5% of people it complicates to liver cancer over the period of 20 to 30 years (World Health Organization, 2000). The salient feature of the disease is that the patients having chronic infection may remain asymptomatic thus possibility of being unaware of infection for a long time is high. Further more, Up till now there is no identified protective immune response against the infection (Centre of Disease Control and Prevention, 2005).

1.2.5. Transmission of Hepatitis C:

Hepatitis C virus is transmitted through blood and other body fluids. Un-screened blood transfusions and reuse of inadequately sterilized needles are the most important factors contributing to transmission (World Health Organization, 2000). Around 35 per cent of people with the virus might have contracted it this way (BBC, 2006b). Other ways of transmission such as needle sharing among drug users and use of contaminated or inadequately sterilized medical equipment are also well documented for the transmission of disease. Initially the HCV infection was thought to be related to blood transfusions and intravenous drug abuse only. Later researches showed the evidence of other possible routes of transmission. Early efforts by developed countries to implement the mandatory blood screening for blood transfusions have made a remarkable difference in the progression of disease. Similarly the “Needle Exchange Programmes” for intravenous drug users has also helped in reducing the spread of disease (Raja & Janjua, 2008). Bearing in mind here that there are also other ways of transmission which have contributed towards the spread of disease and unfortunately those routes of transmission have not been given due attention. Torre *et al* (2006) explains it by evidence that about 50% of all patient with HCV infection have neither the history of blood transfusion nor the history of any type of exposure to infected blood by other means. Other modes of transmission which have been given less attention are social, cultural, and behavioural practices using percutaneous procedures that may prove to be risky in case of inadequate sterilization of instrument. Ear and body piercing, circumcision and tattooing are some of the procedure which demand proper care for sterilization of instruments but practically, it is not fulfilled very often. Although it is rare but virus can also be transmitted through sexual contact or through other body fluid (National Health Service, 2008). Hepatitis C can also spread from infected mother to child although it is also rare, there is no transmission throuth breast

feeding. Sharing tooth brushes and razors may also transmit infection. HCV does not spread by hugging, coughing, sneezing. Similarly, it can not spread by casual contact, eating utensils and food/water (World Health Organization, 2000).

In developed countries, people receiving blood transfusion before 1991 and Injecting drug users are at a high risk of contracting the disease. While in developing countries the use of contaminated needles (used for drug injecting practices and therapeutic use), contaminated instruments (for tattooing, circumcision etcetera) and unscreened blood are most the common causes.

Injecting drug users, recipients of unscreened blood, haemophiliacs, dialysis patients and persons with multiple sex partners who engage in unprotected sex are the high risk groups, in both developed and developing countries (World Health Organization, 2000).

1.2.6. Complications of Hepatitis C:

Hepatitis C may complicate and lead to other conditions, for instance, chronic hepatitis, cirrhosis and hepatocellular carcinoma.

1.2.7. Treatment of Hepatitis C:

Currently, no vaccine is available for HCV (Abrignani & Rosa, 1998). Research is still going to discover the vaccine. There are treatment options available for HCV infection which can clear HCV from blood and also minimize the liver damage but these treatments have to be taken for a long duration and are usually toxic (British liver Trust, 2008). Interferon (Antiviral drugs), when used solely do not yield good results but when used in combination with ribavirin has good results but the cost of treatment is remarkably high for combined therapy. Early diagnosis gives a better prognosis and prevention is the best way to tackle this continuously increasing disease. Prevention is possible with good knowledge and awareness about the disease.

1.2.8. Hepatitis A and B viruses in contrast with C:

Hepatitis A is the most common type of viral Hepatitis in the world. The virus is excreted in the faeces of infected person and thus can be transmitted to others by orofaecal route. In the developing world it has been long standing problem because of the inadequate sanitation and less availability of clean drinking water. Contracting the disease through contaminated water and food are usually common although healthy and clean environment and precautionary vaccinations can help to reduce the chances of infection. Usually, the complications of Hepatitis A virus are not life threatening in adults and infection settles in a few weeks time with slight medical support and good hydration of the patient.

Hepatitis B virus is found in blood and other body fluids of the infected person. Any direct or indirect contact with the blood or some of the body fluid carries a risk of transmission. It can be transmitted through sexual contact. It can remain silent in the body for years and then shows up with life threatening complications. The behaviour

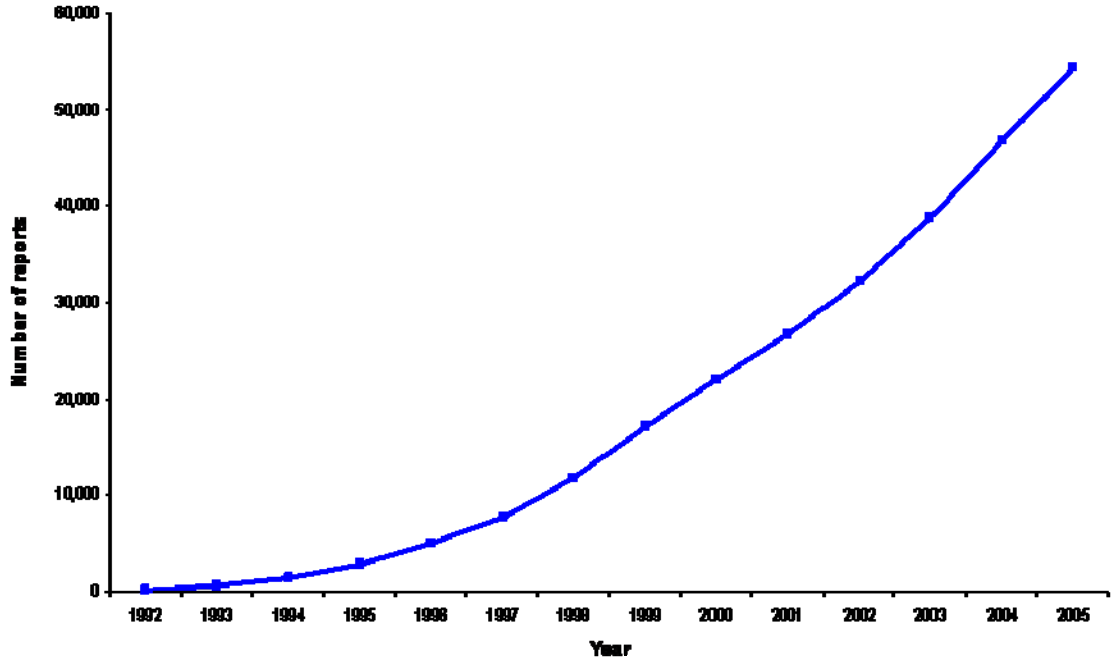
of HBV is similar to HCV in many ways, although precautionary vaccination can help in avoiding HBV infection.

Hepatitis C virus is the most dangerous than above mentioned types of viral Hepatitis. There is no vaccine for protection Hepatitis C, while Hepatitis A and Hepatitis B have got vaccines which can provide reliable immunisation against these viruses. Due to late discovery of Hepatitis C virus (than other two types), the blood transfusions were not screened for it till 1991 and this has contributed towards the high prevalence of the disease in the world. The rapid multiplication potential of RNA virus is another dangerous characteristic.

1.2.9. A little more elaboration:

The constantly increasing number of reporting of HCV positive patients (shown in Figure 1.1) in England is an alarming sign. Although Health Protection Agency addresses it as a good sign that more people are being diagnosed but in researcher's view, it is also necessary to keep an eye on the factors contributing to constant input in to the disease pool. In order to reduce the burden of disease, it is important to include the disadvantaged group of south Asian immigrants' especially the international students from this region. South Asian immigrants and students are the high risk population due to their close connections with the area of the high prevalence of the disease.

Figure 1.1: Cumulative laboratory reports of hepatitis C infection from England: 1992 to 2005 (Health Protection Agency Annual Report, 2006a).



According to the WHO (2007), the current prevalence of disease in Europe (especially Western Europe) is much less (1.03%) than other parts of the world like

Africa (4.2%) and South Asia (2.15%). Obviously it is good news but it may be short lived if the current turnover of population remains the same for next few years. There is a big influx of people from all over the world including south Asia. UK is one of the favourite places for holiday makers, businessmen, student and other categories of immigrants seeking permanent settlement in the UK. These people may take a while a settle themselves in the new environment, and at the same time they may not be able to access all the information available around them. These people are expected to be different from the local community in terms of levels of education, knowledge/awareness about certain diseases and most importantly their past medical histories. The medical hazards faced by them in their home countries may have exposed them to many health risks which are expected to become a danger for their new environment because of their lack of information. Especially, when they are coming from an area where certain infections are endemic. So in this way Healthcare systems of developed countries like UK are depending upon the Healthcare systems of developing countries. Most of third world countries do not have funds and facilities to tackle even symptomatic infections like malaria and gastroenteritis then how can we expect the justified control infections like Hepatitis C and AIDS which carry an asymptomatic but infectious behaviour for years. Many factors in the spread of Hepatitis C like unsafe injections, un-sterilized surgical equipment and lack of awareness favour its spread in third developing countries. Researcher thinks it could be a big hazard for the developed world now, because of large number of immigrants and student travelling from developing countries like south Asian region into countries like UK. Ignoring this matter even further may lead to a non repairable damage, as it would be a perfect opportunity for a disease to spread from an area of high prevalence to an area of low prevalence. Bearing in mind, the routes of transmission of disease, it cab be said that UK may have very good sterilization system for surgical instruments and injection safety practises but lack of awareness can play a vital role in providing a loop hole in the protective shield against the disease.

It is very difficult to estimate the prevalence of HCV in South Asian immigrants of the UK as there are no screening services are being utilized for the entry clearance as well as no high risk screening policy in place in the UK. These factors may prove to bee an extra burden on NHS. Already Hepatitis C is thought to be responsible for 15 percent of Liver Transplants in England and the cost of one liver transplant is approximately 12,000 pounds (Department of Health, 2004). Despite the willingness to bear high cost for these patients, there are some facts which can not be ignored. Statistic show that 98 percent of liver transplant patients get re-infected, 10% have early graft loss and the subsequent anti viral therapy has poor response in these patients (Viral Hepatitis Prevention Board, 2006). The availability of donors for liver transplantation in UK is also a big problem. Patient may have to wait for an average of one year an one in five liver transplant patients have currently died while waiting for the live transplant (BBC News, 2007). Hepatitis C Trust (2005) describes the problem of Hepatitis C for UK as the ‘‘rates in the UK are set to soar, costing the NHS up to 8 billion within 30 years’’. The Health protection agency’s Annual report on Hepatitis C (2007) also warns that statistical models developed in collaboration with the MRC predict that the number of people living with end stage liver disease due to hepatitis C in England will increase to 2,670 by 2015. This is a real cause for concern, particularly when the true number of people in England suffering from

chronic HCV infection and related liver diseases is known to be under-estimated in routinely recorded hospital and death data.

1.2.10. Summary:

- High prevalence of disease in many regions of the world like Africa, East-Maditerranean and South-East Asia.
- Rapidly raplicating pottential of HCV.
- Long period of infection spreading pottential in carriers of the disease without even knowing about it.
- No vaccine for protection against Hepatitis C.
- Still ongoing unscreened blood transfusions, Usage of non sterilized. equipement in the developing counteries.
- High prevalence and large number of undiagnosed cases in the south Asian countries.
- Boost of immigration from south Asian to UK (including students, labour force, highly skilled immigrants, spouse visa holders, holiday makers, Business dealers and Asyllum seekers).
- Officially reported low prevalence of disease in UK but constant increase in diagnosed HCV infections with fears of many undiagnosed cases.

1.3. Rationale for study:

It is not far away when it was stated by the Bob Roberts, the deputy political editor of the Mirror News (2007) in his article “Immigration: the true cost to Britain” that the hard-pressed NHS is struggling to cope with the wave of new migrants and the foreign workers are being blamed for rises in cases of TB and HIV. While looking at these comments by Bob Roberts, the question arises in mind that are we heading towards inviting another problem in to the UK, because of inadequate access and delivery of information to the people?. Offcourse we do not want to repeat the history by ignoring the problem in the early stages and then suffering on a large scale, just like in the case of Tuberculosis.

The study is needed in terms of determining the level of general awareness and necessary knowledge for the self protection and safety of others. Significant number of people are crossing UK’s border with a possible risk of deadly disease. They may possess a future burden on Healthcare system in UK and it may also endanger the life lives of people around them. The study is important from the view of NHS as a large number of students come and then involve in employment or further studies inside the UK and thus they spend many years in UK. Any diseases that put them at the risk are going to affect on the UK’s health system. The present picture suggest that UK has an efficient blood screening systems and adequate sterilization of surgical instruments but these measures may not help for long, if the prevalence of disease keep on increasing by other uncontrolled factors that have been left unaddressed. Moreover, if there are many carriers of disease walking in to country then they are going to put British population at risk too.

So this study is thought to be beneficial for assessing knowledge for personal protection, lack of which may put others at risk too. The finding of study are thought to benefit International office of Universities, Primary care trusts and NHS in

developing future campaigns as it will give a true picture of levels of awareness of International students about hepatitis C. Although the study is being done on a small scale due to limitations and only a part of immigrants from South Asia that is International students have been targeted but researcher believes that it will provide a platform for future researches aimed at Immigrants and South Asian students in the UK.

1.4. Aims and Objectives:

1) To get deeper insight in to knowledge of Hepatitis C in the International south Asian students of University of Bedfordshire (UOB).
2) To evaluate the difference between present situation and the necessary levels of knowledge required for the self protection and prevention of the spread of Hepatitis C.

3) To determine the need of targeted high risk group awareness of Hepatitis C.

CHAPTER 2: LITERATURE REVIEW

2.1. Literature Review Methodology:

Literature search was started from EBSCOhost search engine for databases including Academic Search Elite, British Nursing Index, CINAHL plus, Medline, PubMed, PsychINFO, SocINDEX, Electronic Journal service and Cochrane network. Search was done with different combinations of key words for following themes.

- Students with Hep
- Hep C in the south Asian population.
-Students' health awareness.
- Health awareness of south Asian students

The literature found by using these techniques was of a limited value and relevance to the topic. The search was then extended to south Asian journals database Pakmedinet and grey literature like UK government's publications, government websites and independent organizations websites. Nearly 500 studies were skimmed for the relevant information, while 50 of them have been included in the literature review. Unfortunately most of these studies are from developing countries.

Note: An obvious research gap was found in terms of lack of studies on the problem of Hepatitis C in south Asians Immigrants to the UK and International students. Although some of government publications have mentioned about the problem of Hepatitis C in South Asians but there is no sufficient evidence, as no research has been carried out in this area. The only study done in the UK to look at the problem of Hepatitis C in healthy people is still in the process of publication. The research carried out on student in south Asia has been reviewed and included in literature review as it is believed to give close idea of the awareness levels of these students as they are more closely related to that environment than the UK. The most relevant information on situation in UK has been derived by comparing and contrasting with other parts of the world and online literature from the government departments like Health Protection Agency (HPA), National Health Service (NHS), Department of Health, The Hepatitis C Trust UK and UK Hep C Resource Centre.

2.2. Review of the Literature:

Literature review has been done bearing in mind that it should provide a brief view of literature on the topic under discussion (Aveyard, 2007). Literature review here, is supposed to give a detailed picture of Hepatitis C as a problem in south Asian immigrants (especially international students). Literature search was done by identifying themes or small pieces of full picture in a sequence and then projecting full picture by joining these pieces (or themes) together. It was kept in the mind while searching for literature that in order to understand the whole scenario and declare any possible relationship between the factors, we would need to explore in four dimensions of the topic and then focus again on the centre point. In this paper, the stepwise approach has been developed to explore the different areas related to the research question so that later these parts could be combined together to provide the

answer to the research question. Firstly, the situation of Hepatitis C in south Asians will be explored in depth to see the factors responsible for transmission and uncontrolled spread of disease over the period of past decade. Secondly, the number, importance and health issues related to south Asian immigrants in UK will be reviewed. Thirdly, the current situation of Hepatitis C inside the UK and government initiatives will be highlighted. Lastly, we will be looking at the south Asians, especially student immigrants in the UK.

2.2.1 Situation of Hepatitis C in south Asia:

The literature has been reviewed in this section to have an insight, in to the prevalence of the disease in South Asia. Later in the section we will have a look at the specific routes and factors related to the transmission in this region. Lastly we will have a look at the control of the government over the present situation.

2.2.1(a). Introduction:

The World Bank (2006) states that the population of South Asia is 1.5 billion with average life expectancy of 63 years and population growth of 1.6%. The initial reports of Hepatitis C were witnessed in this area mainly in India and Pakistan in 1992. (Ramesh, Munshi, & Panda, 1992; Malik *et al*, 1992). Although in the beginning the reports of the disease were mostly limited to adults, with a low prevalence in healthy children (Agboatwalla *et al*, 1994).

The studies on healthy blood donors in Agha Khan Hospital, Karachi, Pakistan, to fill the research gap on information in healthy adults and found a comparatively high prevalence of 1.18% with a male predominance of 2.5:1 (Kakepoto *et al* (1996), while on the other hand prevalence in chronic liver disease patients was 22% as described by Tong and companions (1996). During the next year Panigrahi *et al* (1997) came up with findings of even higher figures of 1.85% in healthy blood donors and 13.3% in chronic liver disease patients in a study at All India Institute of medical Sciences in New Delhi, India. Later the HCV prevalence increased progressively in India, Pakistan and Bangladesh to 2-8 percent in next ten years, while relatively less (1%) in Sri Lanka (Zaidi, Awasthi & De Silva, 2004) . In India alone there are more than 15 million people infected with Hepatitis C out of 180 million people infected worldwide currently. (Medical News Today, 2008).

2.2.1(b). Transmission of HCV in South Asia:

C.J. Tibbs (1997) mentions in his review paper that even up till 1996, the routes of transmission other than blood transfusion were poorly defined in the tropical countries. Inadequate sterilization of medical equipment and blood transfusions have been blamed since long, to be responsible for the spread of Hepatitis C and other blood borne diseases. But not much attention was paid in the past, to other routes of transmission like unsafe injections and risky behaviours such as tattooing, sharing razors and toothbrushes. If these factors would have been taken in account then the conditions today might have been different.

Some important routes of transmission have been reviewed by the researcher in the context of south Asian circumstances as follows.

2.2.1(c). Unsafe injections:

Thousands and millions of injections are delivered every year in developing countries; many of those are unsafe and have resulted in the transmission many blood borne pathogens. This has caused a major public health problem in South Asian region. Approximately 8-16 million HBV, 2.3-4.7 million HCV and 80,000-160,000 HIV infections result from unsafe injections every year (Kane *et al*, 1999).

It is estimated that each person receives 1.5 injections per year on an average in the developing countries. However adults and children, who are ill or hospitalized, including those infected with HIV, are often exposed to 10-100 times as many injections. An average of 95% of all injections are therapeutic, the majority of which were judged to be unnecessary. At least 50% of injections were unsafe in 14 out of 19 countries (representing five developing world regions) for which data was available. Many studies present convincing evidence on the association of unsafe injection practices and the transmission of blood borne viruses (Simonsen *et al*, 1999). In 2001, Anand *et al* discovered in a research in a village of India that most of the people practising in private clinics were not trained in medicine and a few of them even did not know about any disease transmitted by unsafe injections. While the history of participants in the study showed high rate of therapeutic injections in the same research. In the continuation of research on the risky injection practices has led to HCV transmission in India. Sood, Midha & Awasthi (2002) arranged a study to look in to the awareness levels and knowledge of family physicians in India. Although the response rate in this study was much less (28%), but the data collected showed that not all the doctors were aware of parenteral transmission of Hepatitis C and some of them (18%) are still reusing needles. Bari *et al* (2001) found in a case control study in Pakistan that cases (HCV positive participants) had a history of more therapeutic injections in last 10 years than controls (HCV negative participants). This points toward the major difference of risk factors between cases and controls. Exploring more in to the relation of Hepatitis C, practitioners and injections, it has been observed that 44% of the patients prefer injectable treatment even if the oral medication is as effective as parenteral one. Moreover, the chances of becoming Hepatitis C positive are more in such patients (Khan *et al*, 2000).

Unsafe injection practices are also associated with unqualified practitioners, for instance a cross sectional study by Misra, Goswami & Pandav (2003) discovered that the 66% of therapeutic injections are given by unqualified practitioners and nearly half of them do not use disposable syringes. Although these findings may not be applicable on the general population as this study was done on slum population, who live on the margins of society. A recent research tries to look at the genotypes and subtypes prevalent in Pakistan, with a sample of 3351 people. A unique point in this approach, which is not found in the above mentioned studies, is that, the participants have been included from all the four provinces of Pakistan to make sure that each geographical area is represented in the sample. The major risk factor for HCV infection declared by researchers is the reuse of contaminated needles and major or minor surgical procedures in these areas. More than 70% people in this research presented with the relevant history (Idrees & Riazuddin, 2008).

The above mentioned literatures support the evidence, that the use of contaminated needles has played a leading role in the spread of Hepatitis C in the developing world over the past few decades.

2.2.1(d). Blood transfusions:

Despite the usage of modern techniques and medical equipment for blood screening, blood transfusion is still a major route of transmission for HCV infection. As there is still a continuous supply of unscreened blood and blood products in developing regions like south Asia, HCV is one of the most common blood-borne infection (Raja & Janjua, 2008). Despite various evidences of HCV positive cases and first reporting in 1992, the screening of blood transfusions for Hepatitis C was not mandatory in India even up till 2003 (Jain *et al*, 2003). United States National Institute of Health (2004) also mentions the relation of blood transfusion and high prevalence of Hepatitis C. Although this was the pioneer research in determining co-infections with HIV/AIDS and Hepatitis B virus usually associated with blood transfusion. The prevalence rates of Hepatitis C were observed to be 5% in this research as compared to 1-2% estimates of WHO in that year. Its not far away when it was found that as low as 23% of blood banks in biggest city of Pakistan, (Karachi) had inadequate facilities for Hepatitis C screening and most of the blood banks in the Sindh province were operating below WHO standards (Luby *et al*, 2000). Recently the World Bank has warned countries of Asia for tainted blood transfusions as nearly 3 percent of samples from blood transfusions have been tested positive for Hepatitis C. Nearly the same kind of situation prevails for all the underdeveloped countries (Hepatitis C Trust, 2008a).

As a result blood transfusions have played a major role in transmission of Hepatitis C due to inadequate screening of blood and blood products before transfusions. This has increased the financial burden over already deprived Healthcare systems and has contributed towards high prevalence of the disease in South Asia.

2.2.1(e). Role of Barbers:

In south Asian population, many people go to barbers for the face and armpits shaves in addition to hair cutting. Due to lack of education and general awareness which is expected to be low in barbers, as socially they do not get much respect because of traditional “Cast” system for many centuries. It is still practiced in many areas of Pakistan, India and Bangladesh.

Janjua & Nizamy (2004) researched on the awareness levels of barbers due to the frequency of shavings with involvement of razors in their jobs. The findings were strongly suggestive of very low levels of awareness in this group about Hepatitis C, as most of them did not recognise this as a disease and few were just able to associate it with jaundice. Moreover, most of them found to be reusing blades (in 46% shaves). Daily face and armpits shaves were also mentioned as high priority risk factors other than therapeutic injection by Bari *et al* (2001). Later researches such as Muhammad & Jan (2005) have provided further evidence of high prevalence of Hepatitis C in south Asians associated with shaving by community barbers.

2.2.1(f). Mother to baby transmission:

Although the transmission of HCV from mother to baby depends on the viraemic levels of the mother but other factors like timing of rupture of membranes may also play a role in the transmission (Ferrero *et al*, 2003). Bearing in mind, the largest population in South Asia still do not have access to good quality health care, so this route of transmission is also a matter of concern for south Asian region.

2.2.1(g). Household transmission:

Although a few cases of household transmission have been reported but still the phenomenon is not clear. Some researchers have claimed a strong association of household contacts with infected persons living in close vicinity but this still needs further investigation (Akhtar & Moatter, 2004). If there is some proved significance of this type of transmission, it would not be good news for the population under study due to combined family system; the risk would be high for those living around infected people.

2.2.1(h). Other transmission routes:

Due to the improper sterilization of medical and surgical equipment to save the extra costs is also a setback in South Asia as these measures expose the patients to further risks. Haemodialysis is one of the procedure in which patients need repeated treatments, so understandably the prevalence of disease is much higher in such patients ranging from 23% to as high as 68% (Khokhar *et al*, 2005; Gul & Iqbal, 2003). Similarly dental patients are also at a high risk due to inadequate sterilization of surgical instruments and a lot of unqualified back street dentists (Butt *et al*, 2003).

There have been some speculations about relationship between Smallpox vaccinations and high prevalence of Hepatitis C because of the fear expressed by some researchers like Aslam & Aslam (2001), who later investigated this problem deeply by dedicating a research project in two big cities of Punjab Province of Pakistan. This time they were able to prove strong evidence of Smallpox vaccination related to spread of Hepatitis C. Although they were not sure whether this is due to repetitive use of vaccine injecting equipment or it is because of the contaminated vaccines (Aslam *et al*, 2005).

Recently (Kumar *et al*, 2007) a research in India, probing for prevalence of HCV in pregnant women found that it is as high as 1.03 % in pregnant mothers. The striking feature of this study was that 61 % of these cases did not have any identifiable risk factors for the infection, which demands further research to explore the unknown factors.

2.2.1(i). Government Initiatives:

Considering the high prevalence and undoubtedly continued spread of disease, governments are struggling to fight the spread of disease due to lack of resources and limited access to some areas. For instance, in 2005, in Pakistan, the Prime Minister's programme for control and prevention of Hepatitis was launched, with the aims of

reducing the number of Hepatitis patients to half till 2010. But, by looking at the alarming increase in number of cases (7% prevalence in Pakistan), the programme is under review to be re launched in near future (Achakzai, 2008).

Taking above discussion in to the account, it is evident that the prevalence of Hepatitis C is much higher in South Asian countries and the number is increasing progressively due to many factors like usage of unsafe needles, Tainted blood transfusions, dental and medical procedures and lack of knowledge of disease in Barbers. The situation is getting worse day by day due to the lack of awareness in the public as well as medical professionals.

2.2.2. Immigration and South Asian Immigrants in the UK:

In this section we will try to explore the magnitude of the immigration in relation to the UK and importance of South Asian immigrants in the UK. Then we will discuss the relation between Hepatitis C and immigrants in the light of studies carried out internationally. Later in the section we will have a look at the General Health and socioeconomic status of South Asians in comparison with other ethnic minorities in the UK.

Immigration has made up more than half of Britain's population growth from 1991 to 2001. Immigrants comprise a quarter of the capital's population and in one area, Wembley, just over half of all residents. Scotland, the South West and north-east England are three of the areas to have seen the least immigration over 50 years (BBC News, 2005a). In 2005 alone, 565,000 people arrived in the UK (BBC News, 2006a). The revenue collection which serves as the backbone of UK's development has greatly benefited from these immigrants. A report in 2006 claims that Immigrants boosted UK tax revenue by $35 billion (UK Immigration, 2008). Every immigrant coming into the UK in last ten years has boosted the economy by the equivalent of £1,650 for every single Briton (Hope, 2008). Sir Andrew Green, Chairman of Migration Watch UK (2008) comments over current situation: "our population is increasing by a third of a million every year, mainly due to immigration. We will have to build the equivalent of the city of Birmingham every three years just to cope with this".

It is also a truth that the immigrants from third world countries dominate the figures of immigration to UK recently (In the News, 2008). The possibility of having diseases in these immigrants, which are prevalent in the third world countries, is strong. Although immigrants face other problems linked with immigration as Department of Health suggests that Immigrant populations in the UK are at higher risk from mental and physical illness (BBC News, 2003). Now let's have a look specifically at immigrants from South Asia.

2.2.2(a). Association between Immigrants and Hepatitis C:

Literature reveals that the Association between immigrants and Hepatitis C has a history behind it. During the year 1984, 198 patients were admitted to the Hamad General Hospital, Qatar, with acute viral hepatitis. Sera from 126 patients were tested positive for Hepatitis virus. Only 6% of the patients were Qatari nationals and the remainders were immigrants. Of the 126 patients tested, 7 had acute hepatitis A, 29

had acute hepatitis B (none were positive for delta antibody), and the remaining 91 were regarded as having acute non-A, non-B hepatitis. Bearing in mind here that Hepatitis C virus was classified as non-A, non-B virus until 1989. Out of these 91 patients, 75% were Indian immigrants and most of them had arrived in Qatar within last few weeks (Glynn *et al*, 1985). So it can easily be concluded that most of patients had got infection in India but now they were in Qatar. These findings clearly give a view that if we analyze the situation there are chances that the same thing might be happening in between UK and other areas having high prevalence of the disease.

Race and ethnicity has an important role to play in regards to Hepatitis C. Celona and colleagues (2004) carried out a survey in Los Angles from 1993 to 2000 based on the studying reports of 1271 patients with antibodies to HCV. The study population comprised of Asian, African American, Caucasian and Latino patients. Although the prevalence in Asians was not that high but co-infection with Hepatitis B was more prevalent in both sexes, which indicates the risky blood transfusions and therapeutic practices faced by them in home countries. Another important finding of this study was that, it showed that in Asian patients intravenous drug use was an insignificant cause of Hepatitis C infection and was a prevalent cause in Caucasian, African American and Latino patients. There have been reporting in United Stated that previously healthy and screened patients having no risk factors involved, travelled to south Asian countries and took invasive treatment or Intravenous injections and were lately found positive.

Among blood borne diseases, Hepatitis C has been less specifically studied in UK with relation to immigration but Hepatitis B which has also got the similar modes of transmission was found related to immigration. In United Kingdom, people travelling abroad accounted for more than 6% of all reported cases of hepatitis B in 1981. From 1990 to 1994 when travel had become more popular, the proportion had more than doubled (Carballo & Nerukar, 2001). A similar study in Australia on immigrants and refugees included Laotian (n=95) and Cambodians (n=234) due to the high prevalence of Hepatitis C in their home countries. The survey method was used separately for both groups to collect the data in 1998 and 2002 respectively. The assessment of awareness levels was followed by screening tests. The findings were very much similar to what could be expected. Most of the infected people were not aware that they were the carriers of disease. The prevalence of Hepatitis was 3% in Laotian and 8% in Cambodians (Caruana *et al*, 2005). In continuation of these researches, recent research in Australia has shown that out of all HCV positive cases in Australia, 10.9% cases are amongst immigrant population (Department of Health and Aging, 2006).

So it can be concluded from above discussion that that while living in the same country and same conditions, the prevalence of infectious disease varies in immigrant according to the country of origin (Ramos *et al*, 2003).

Now let's have a look at South Asian immigrants in the UK specifically.

2.2.2(b). Who are South Asians in the UK?

The term "South Asian" is used collectively for people from Eight south Asian countries which are India, Pakistan, Bangladesh, Sri Lanka, Afghanistan, Nepal, Bhutan and Maldives (The World Bank, 2008). The UK's South Asian population is

the largest minority ethnic group is 4% of the total population (Office for National Statistics, 2003). Although south Asians have been classified in to a single group but there are lots of variation of culture, language and faiths within this group. The representation of Indian, Pakistani and Bangladeshi people is significant in the UK. Indians make 1.8%, Pakistani's make 1.3% and Bangladeshi's 0.5% of the UK's population (Office for National Statistics, 2003). Indians were the largest foreign national group to be granted British citizenship in 2007. 14,490 Indians were granted British citizenship, almost 9 percent of the 164,635 foreign nationals to be granted such citizenship in that time period (Little India, 2008).

2.2.2(c) Health and Socioeconomic status of South Asians in the UK:

Worse health status has been reported in the South Asian ethnic group in the UK. Pakistani and Bangladeshi men and women have highest disability (Office for National Statistics, 2005). Bangladeshi and Pakistanis have the highest unemployment rates that is 13% and 11% respectively while Indians have lower rates as compared to these two groups but still higher than white population (The Office of National Statistics, 2006). Though smoking rates in ethnic minorities remain relatively lower than in the majority of population, it is of great concern that 43% of Bangladeshi men smoke compared to the national average of 27% (Justin, Zaman & Mangtani, 2007). The office for National Statistics (2005) states in the report "Focus on Ethnicity and Identity" that Pakistanis and Bangladeshis are most likely to be unqualified. Nearly half (48 per cent) of Bangladeshi women and 40 per cent of Bangladeshi men have no qualifications. Among Pakistanis, 40 per cent of women and 28 per cent of men have no qualifications while Indians are better in education also their chances of getting university degree are higher.

So as a whole, the South Asians are amongst the disadvantaged and deprived group of ethnic minority in the UK, in terms of health, education and employment.

2.2.3. Overview of Hepatitis C in the UK :

In this section, we will have a look at the present situation, the measures taken to tackle the problem and the possibility of future hazards posed by Hepatitis C to the UK. The importance of pre-entry Health tests has also been discussed as a part of future immigration policy for the UK. Later in this section we will look at the Government initiatives to ease the situation.

Estimates of the overall burden caused by HCV infection in the UK suggest low prevalence. An estimated 50,000 HCV infected persons in Scotland (1% of the total population) of whom only 35% are estimated to be diagnosed, versus 300,000 cases in England (0.5% of the total population) of whom only 17% are estimated to be diagnosed. It is predicted that there will be almost 6,000 cases of decompensated liver cirrhosis due to HCV infection in 2010 (The Viral Hepatitis Prevention Board, 2006). Estimated seroprevalence in pregnant women of UK is 0.18-0.22 and on the basis of reported rates of mother-to-child transmission of HCV, this would represent approximately 70 paediatric HCV infections per year (Ades *et al*, 2000). At present there is an evidence of high prevalence of the disease in Intravenous drug users (20-30) with no epidemiological variation throughout the UK. Although there have been variations of prevalence in this group in past from 70% to 90% in 1990 to 20-60% in

1996. The widespread “Needle Exchange Programme” is thought to be the most helpful measure in slowing down the progression of Hepatitis C in this group. In future, the number of (current and former) IDUs with moderate HCV disease is expected to increase from 9,000 in 2005 to over 18,000 in 2020 (The Viral Hepatitis Prevention Board, 2006). In researcher’s view, the changing patterns of migration demands the timely and efficient response to decrease the risk of the spread by other possible ways in UK just like it was done to reduce transmission in IVDs and has yielded fruitful results. Although the parameters of assessing the actual burden of disease would be different as IVDs were declared as the high risk group and then targeted specifically, but here we are dealing with general population. The target screening and researching the specific minority ethnic group (South Asians) is expected to produce similar results in undiagnosed cases. In accordance with the UK national plan for healthcare delivery to hepatitis C patients, Managed Clinical Networks (MCNs) as a part of Integrated Hepatology Service are already delivering excellent services.

The laboratory surveillance data for Hepatitis C from1992 to 2004 reveals that 49, 819 confirmed cases have been reported to Health Protection Agency, while the annual number of reports increased from 241 in 1991 to 8129 in 2004. The cases in which risk factors are traceable, most of them lead to Intravenous use in one way or the other but 71% out of 49,819 did not have any reported risk factors. The same report mentions that it is estimated that up till now only one sixth of total cases are thought to be reported to HPA which is an alarming sign, pointing towards many undiagnosed cases still in the community.

The other problematic aspect is that the current policies are based on assessing the risk factors by a questionnaire and to undergo voluntary screening. In the absence of known risk factors it would be a difficult job to point out people who need screening for Hepatitis C. So this research would be helpful to determine the need for screening for high risk group by providing the level of awareness in south Asian people (Gungabissoon, Balogun & Ramsay, 2007).

The prevalence, incidence, disease transmission patterns and genotype distribution have changed substantially during the past 15 years in Europe as a whole. Four main factors contribute to such changes such as increased blood transfusion safety, improvement of healthcare conditions, continuous expansion of intravenous drug use and lastly the immigration to Europe from endemic areas (Esteban, Sauleda & Quer, 2007). Due to considerable changes in the disease patterns, the studies done in the past are of a limited value now. Although in researcher’s view the present data may just be helpful in giving clue to the areas which need improvement. In order to control the spread of the disease, it is a good suggestion to improve the preventive strategies. Hence, prevalence data from studies conducted a decade ago may not be useful to estimate the current and future burden of HCV infection. The additional epidemiological studies should be conducted, also new preventive strategies should be implemented to control the silent epidemic.

According to the Hepatitis C Trust, UK (2008b), half a million people in the UK have hepatitis C but 9 out of 10 people who have it still don’t know. The Hepatitis C Trust is one of the few organizations working in collaboration with HPA and NHS to combat the impact of disease in the UK. It is an umbrella organisation with 20

member associations in 17 countries and was founded in 2004. The Trust is determined to deliver comprehensive information on Hepatitis C. It aims to increase the awareness of disease in the community, attracts the people for voluntary screening and explores the hidden aspects of disease. The trust is currently carrying out a "South Asian study" in East London with the help of a large lottery fund grant. (Hepatitis C Trust, 2008b). Although some Publications of the Trust mention the high prevalence of disease in South Asians, particularly in Pakistani community in the UK. But According to Charles Gore, who is the chief executive of the Hepatitis C Trust, "it would be before time to say anything surely until we complete the ongoing study" (Personal communication, 15 September 2008).

A comparison of standardized mortality ratios for liver cirrhosis and primary liver cancer in men and women aged 20-69, by country of birth for the five year period 1988-1992 taken on data for England and Wales. The results showed that there was a statistically significant two-fold increase in mortality rates from liver cirrhosis among male migrants from East Africa (SMR 286), India (SMR 261) and Bangladesh (SMR 254). In female group, the Bangladeshi women have high mortality levels by liver cancer (Haworth, Soni & Balarajan, 1999). The researchers showed deep concerns over the high mortality from cirrhosis in Indian, Bangladeshi and African countries. Moreover it was recommended that there is a great need of high risk screening in these groups. This study was published in 1999 and still there is not evidence of special measure regarding effective target testing in south Asians.

Dr Graham Foster, professor of Hepatology at Queen Mary's, is well known in UK regarding his interest and devotion to Hepatitis related problems. He carried out a cohort study on 143 Asian adults who had been infected with HCV as childhood, 20-80 years ago. Then these patients were followed up and compared with 239 white patients with HCV infection. The infection for more than 60 years caused cirrhosis in 71% of HCV Asians as compared to 25% in whites. This difference is of significance, as theoretically, the progression of disease is faster with alcohol intake but these Asian patients had history of minimal alcohol intake. So it can be concluded that if Asian patients were drinkers along with Hepatitis C disease then the cirrhosis rate could have been more than 90%. Although this question of progression of HCV infection in Asians with risk factors of alcohol intake still needs to be addressed. Considering the probable high prevalence hepatitis c in south Asians, this is an unfortunate behaviour of disease, which progresses even faster with high alcohol intake (BBC, 2005b).

Presently a major study s going on to look in to the problem that how immigration is affecting prevalence of Hepatitis C in UK. The study, led by Professor Graham Foster and funded by the Big Lottery Fund and Department of Health, aims to assess the infection incidence among Bangladeshi and Pakistani communities living in East and West London, Bradford, Walsall and Sandwell. The study has screened 3,000 members of these communities so far. Screening is being done in the non clinical environments like community halls and mosques. This screening method has become possible by using the alternative methods of screening that is by using oral fluids. This non traditional method has been adopted for a low risk of cross infection as even dried blood in a very small amount can transmit the infections and it is also a convenient way for the participants. According to Professor Foster "Taking blood samples on a large scale just is not practical outside a clinical environment which

dramatically reduces the ability to screen a community for hepatitis C infection rates" (Hepatitis C Trust, 2008).

In response to the query of researcher, Dr. Foster says "we have completed the study but at this time we are unable to disclose the results, although in a short time, we will be notifying HPA about our findings" (Personal communication, 10 September 2008). Few days later, Dr. Foster presented the preliminary results in the HPA conference in Coventry on 12th September 2008 but researcher has not been able to get hold of the results. When published, it is expected that results of this study are going to set the direction of future research in south Asian community regarding Hepatitis C. The findings of this study might be similar to the research in Australia, which is thought to be a country of low prevalence (less than 2%) of disease for general population. But studies have shown results contrary to the government estimates, the prevalence in general population ranges from 2.3% to as high as 5.3% in 20-24 years age group (Amin *et al*, 2004). The insufficient data supporting the evidence and lack of research on immigrants in UK does not exclude the possibility of similar kind of disease patterns in this specific ethnic group in the UK. It has already been discovered that another type of Hepatitis that is Hepatitis B is more common in the UK in the south Asian children than in non-south Asian children (Hahné *et al*, 2003). This kind of finding has played a role in the changes in UK's vaccination policy to add vaccination against Hepatitis B in children, but as above, it is unfortunate that the vaccine for Hepatitis C has not been discovered yet. There is a need to look in to the factors that are specifically related to South Asian community and the prevalence and spread of Hepatitis C. Bearing in mind, that the recent researches have already determined that the risk factors of contracting the disease are different for South Asians than non-South Asians in the UK (Gungabissoon, Balogun & Ramsay, 2007).

Although Hepatitis C action plan in the UK was announced by HPA in 2004 but the situation in 2006 was not satisfactory at all, amongst Primary Care Trusts PCTs. The All-Party Parliamentary Hepatology Group (APPHG) carried out an audit survey to assess the performance of PCT's. The questionnaires were dispatched to 305 PCT's and results were analysed on basis of 191 responses. The Action Plan was implemented effectively by just 16 PCTs (8%), to some degree by 107 PCTs (56%) and not at all or minimally by 68 PCTs (36%). So APPHG concluded that the Department of Health's Hepatitis C action plan for England is not working because it has not been implemented effectively (Hepatitis C Trust, 2006).

2.2.3(a). Importance of pre-entry health tests:

The cases of Hepatitis C entering in to the UK are not monitored, as it is being done by South East Asian countries and United Arab Emirates. The cases can only be detected by blood tests prior to entry or immediately after entry, to develop a data base for cases, which will be helpful in developing the policies accordingly. Although it is a political debate that the database should be used to refuse the entry or it should just be used to monitor the entry of the diseased people. The above mentioned states have tried to balance the situation, by allowing the entry of asymptomatic patients with HCV (carriers of disease) infection but an undertaking is demanded for bearing the expenses of treatment, in case of symptomatic infection (Migration Watch UK, 2003).

The Migration watch UK (2003) seems to be aware of the problems that could be brought in to the UK with the continuous inflow of immigrants. They have compared the immigration figures for 2002 with the World Health Organisation table of prevalence for these diseases. The number of arrivals was 339,000 students, 135,000 work permit holders and 86,000 asylum seekers (excluding dependants). By multiplying the prevalence in each country of origin gave the magnitude of Hepatitis C disease of about 11, 000 cases per year and approximately an addition of 8,000 cases related to student immigrant category. The breakdown of these categories is given in the following table excluding dependents.

Table 2.1: Estimated number of Hepatitis C cases entering in to the UK per year.

Immigrant Category	Estimated Hepatitis C cases
Work Permit Holders	1,577
Asylum seekers	1,430
Sub total	3,007
Students	7,989
Total	10,996

The control of hepatitis C virus (HCV) infection in the UK is based on a series of preventative measures involving:
- Increased public and professional awareness
- Strengthened prevention services (e.g., needle-exchange programmes)
- Strengthened services for diagnosis and treatment (Viral Hepatitis Prevention Board, 2006).

The Viral Hepatitis Prevention Board (2006) records data related to Hepatitis C virus in different groups of the UK's population including Health care workers, pregnant women, genitourinary medicine, blood donors, prisoners and intravenous drug users but currently there is no data collection regarding ethnic groups.

2.2.3(b). Government's initiatives in UK:

Department of Health's Migrant Health report (2006) gives a detailed view of infectious diseases in non-UK born population, immigrant statistics and infectious diseases related to migration but unfortunately it does not mention Hepatitis C and its relation to immigrants. It could be the reason that up till 2006, Hepatitis C did not have much media coverage or the cases of Chronic live disease were not as much in discussion (Health Protection Agency, 2006b).

The NHS "face it" campaign is struggling to get more and more people to come for the voluntary screening, depending on an assessment questionnaire which does touch the surgical treatments done abroad but in researcher's view this is not enough. It may be relevant to the people living in UK but the migrants are not expected to take this question in their context as the minor treatments which they took back home may not

be considered as a risk factor in their view. Moreover, as discussed above, there are risky injection practices still going on in south Asia and the topic which has been covered in the questionnaire is mainly related to native UK population, where injections are considered really safe other than in drug users. So an immigrant from south Asia, who has been repeatedly exposed to such risks over there, would not consider it as a risk due to lack of awareness. So despite putting so much effort, NHS might not be able to attract them for voluntary screening.

It can be concluded here that there are many undiagnosed cases of Hepatitis C in the UK but implementation of Hepatitis C related action plans is not satisfactory. The results of the only study trying to explore the relationship between Hepatitis C and South Asians in the UK are to be published in near future. These results are expected to be helpful in setting the direction of future research and policies. There is a desperate need of research in to the problem so that the necessary protective mechanisms can be adopted.

2.2.4. Immigrants especially Students and Hepatitis C:

In this section we will have a look at the specific group of South Asian Immigrants to the UK that is students. Students represent a big proportion of South Asian immigrants entering each year in to the UK and they are at a high risk of getting the disease due to high risk taking behaviours in them. We will discuss the prevalence, factors related As discussed in the above section, the literature published in the UK has not yielded much information on this group in to the Hepatitis C, so we will try look at the problem in students internationally and

To have an idea of immigration load on UK, in 2004, an estimated 542,000 people migrated to England and Wales for a period of 12 months or longer. Out of these work permits holders (130,700) and students (127,700) were the largest group of immigrants entering in England (The Higher Education Policy Institute, 2007). Immigrants as a whole is a diverse group and the existence of Illegal immigrants can not be denied, the estimates show that there are 430, 000 illegal immigrants in UK. In terms of health risks, this group is at a high risk of infectious diseases because of limited access to healthcare facilities. Limited knowledge about this group exists because as it is a hard to reach group (The Health Protection Agency, 2006b). The overseas students predominantly arrive from Asia and America. After United States, UK is the favourite choice of International students. In 1992 there were 95,900 full time international students in the UK in Higher Education Institutes. That number increased steadily to 240,390 in 2004-05 (318,400 including part-time students). Of those, 100,005 were from EU countries, whilst the remaining 218,395 were from countries outside the EU (Higher Education Policy Institute, 2007). In the academic year 2004-05 non-EU students paid just under £1.5 billion tuition fees. The average stay of non-EU students is double than EU students (Higher Education Policy Institute, 2007). The students form a major component of immigrants but they are not given the due importance in health planning and other policies, nearly ignoring their presence. Li FL (1996) studied the experience and intentions of International students and writes: “Migration for education is closely tied to other types of population redistribution and should be treated by population geographers as an integral part of international migration systems” (Li, 1996).

The Recent increase in the number of overseas students in UK has progressively increased over the last decade. The initial change occurred with the comparatively relaxed policies for the students including allowing the work for dependents of students staying for one or more years for study in UK. This has added up to the possible advantages of better future prospects and attracted student from all over the world. Then UK became the point of interest for students during 2002, due to declared shortage in Science and Engineering sector. But the statistics actually show that there was less recruitment of overseas students in the UK's labour market. Although work seeking opportunity of one year, after completion of studies remained a plus point on policies of other countries. From February 2008, the work seeking opportunity of one year has been extended to two years of post study work visa for both graduates and undergraduates and these policies are expected to maintain the interests of overseas student in the UK's higher education market. The Institute of International Migration (2006) estimates that by 2020 there will be 5.8 million people seeking to gain international educational qualifications worldwide and that 800,000 of these might be expected to come to the UK. Average expected stay of International students as calculated by the researcher is 5 years for undergraduates and 3 years for post graduates. The current policy of Home Office is encouraging post graduate students to stay in the UK by offering two years post study work visa on the basis of graduate or post graduate degrees. Bearing in mind here that overseas students intending to live in UK for more than 6 months are considered as residents and are covered for treatment by NHS (Health Protection Agency, 2004). So any medical conditions affecting students will have an impact on public Health systems.
The diseases of infectious nature like Hepatitis C would put students at risk as well as the people around them due to silent transmission of the disease. In a broad view, it is going to increase the burden of disease on NHS. Most of the students during their stay in the UK tend to involve more in health risk behaviours like heavy drinking. Increased alcohol intake is known to be associated with even rapid progression of HCV infection leading to liver cirrhosis.

2.2.4(a) Students and risk taking behaviours:

In the presence of safe blood transfusions and safe injection practices, students are thought to be more at risk of disease due to other factors as they tend to involve more in risk taking behaviours.
Poor health has been reported in the students (Stock & Kramer, 2001) and involvement in risk taking behaviours like tattooing, binge drinking, smoking, unprotected sex, sharing razors, sharing tooth brushes and smoking are also seen. Most of the times it is observed that they tend to involve more in these practices more than their peers in the same age group in general population so they are at a high risk of contracting different diseases than others. Knowingly or unknowingly they involve more in these risk taking behaviours. About 89% of students drink and out of these 60% male and 55% females do insensible drinking and about 20% university students take cannabis (Webb *et al*, 1996). These are the finding of a survey including students from ten universities in the UK. Other researchers have also found that the binge drinking is more common in university student group than their peers in the same age group (Gill, 2001). Brown et al (2000) compared the university students between ages of 18-34 years with the national data as well as peers in the same age group in general population and found that there is a significant difference between health statuses. The health status of students tends to be poor than peers in the same age group from

general population. Other high risk behaviours like tattooing, sharing blades and equipment can also not be ignored. According to Mayers (2002), body art is prevalent among undergraduate university students, and there is a significant incidence of medical complications among students with piercing. Awareness of disease in body piercing practitioners is another important issue in this regards, which seems to be really low even in developed countries like Australia and France (Hellard *et al*, 2003; Guiard-Schmid, 2000).

Researchers have tried to explore more deeply about the student's\ prospective of involving in such risk taking behaviours. The students prospective in this regards seems to be interesting as they do involve in unprotected sex, but the justification comes that they trust their partners, although the findings are suggestive of casual relationship with partners or short term relationships (Skidmore & Hayter, 2000). Same is the case with smoking which is considered as "lubricant" for social relations and marker of an acceptable identity in the view of students (Wiltshire *et al*, 2005). Drug use influenced by social setting for social mixing and pleasure (Hunt, Evans & Kares, 2007), binge drinking in the idealism of a strong and authentic person (Bogren, 2006) and unhealthy eating due to easy access to snacks and weight concerns a lot (Bauer, Yang & Austin, 2004). Some of these studies have explained the situations where students are aware of the hazards of smoking and sexual risk taking behaviours but still they engage in these activities.

2.2.4(b). International scenario of the knowledge of Hepatitis C in the Students:

A research in Australia showed that there is very less awareness about Hepatitis C in students. 3550 students were included in this study and out of seven questions in the questionnaire presented; only one was correctly answered by most of the students. Although there is no explanation of overseas or home students in this study but a general statement could easily be made that the knowledge and awareness of the disease is very low. An optimistic view could be that the above mentioned study was carried out in 1997 and after 11years of media campaigns; there would be some improvement, which still needs to be explored (Lindsay, Smith & Rosenthal, 1999). A research in Italy on 221 medical students of Padua compared the seroprevalence of HCV in student originating from different parts of Italy. Only three students out of 221 were found to be having HCV. This shows comparatively low risk of presence of disease in students, although the details of ethnic groups studied could not be retrieved so it can not be said surely in this context that whether areas with high population of migrants were included in this study or not (Beggio *et al*, 2007).
On the other hand Fujimoto *et al* (1999) researched on International students in Japan. 423 students, males being predominant were included in this study. Most of them were from Southeast Asia, Africa, Central and South America, and other developing countries in tropical or subtropical. The prevalence of Hepatitis C was found to be highest in Egyptian students (21.1%) as compared to (1.5%) other student groups. These findings correlate with exceptionally high prevalence of Hepatitis C in Egyptian student's home country (Fujimoto *et al*, 1999).

It can be concluded that the prevalence of disease in immigrants and students will be related to their home countries and is expected to be much different from the local population. So there is a need to look at the problem of Hepatitis C in South Asian

students in the UK, as a high risk group having direct connections with the areas of high prevalence.

2.2.4(c) Knowledge of Hepatitis C in the students of the UK:

As mentioned earlier, a study is in progress in East London to assess the prevalence of HCV in south Asian community of the UK. There is not enough evidence on immigrants or specifically students in relation to the disease to either look in to the prevalence in them or assess their knowledge. A recent study focussed on students as a whole irrespective of their ethnic origin, the survey during fresher's week in Edinburgh University revealed that only two third of the students had a little knowledge about Hepatitis C symptoms in contrast to other infectious diseases like HIV/AIDS. Thus these students are endangering their health by sharing banknotes or straws when snorting drugs, getting a tattoo or piercing and sharing razors and toothbrushes. Thus half of the university students are unwittingly exposing themselves to the risks of the deadly hepatitis C virus. Dr Nicola Rowan, of the UK Hepatitis C Resource Centre, comments on these findings as: "The situation with hepatitis C in Scotland is serious and is likely to worsen if the number of people infected continues to outweigh the number of patients cured. Whilst healthcare professionals and policy makers have a role to play in reducing this burden, individuals can also make a difference by protecting themselves" (Channel 4 News, 2007). As even the south Asian group has a lot of diversity according to culture, religions, attitudes and behaviours so it would be difficult to generalise the findings. The research also supports this view that there is diverse sexual health knowledge, sexual attitudes and sexual behaviours among young people with different religious affiliations (Coleman & Testa, 2008). The situation needs more attention when Pakistani young males and females and Bangladeshi males are already thought to be in a desperate need of improved sexual health in UK, as determined by Bryan Teixeira (2006) in a survey study of 3000 students from black and minority ethnic group in London. Looking closer in to the general health status of students in relation to gender, male students usually have bad health status and low level of awareness of the diseases (Larouche, 1998).

To summarise the situation, literature reveals that the level of awareness of HCV is quite low in the students of UK, especially the youth from ethnic minorities.

2.2.4(d). Lack of Health related awareness in south Asian students while living in their Home countries:

Although the evidence presented earlier in the section about awareness of disease in the general public of South Asia also applies to the category of students but there is evidence specifically related to the students which will be mentioned in this section. Youth in South Asia do not have good knowledge about the diseases that are endemic in the region. Although most of these studies in the South Asian region have been done on medical students but some have included certain groups that are comparable with the students of other fields. These studies have tried to compare the knowledge of preclinical and clinical student regarding the basic knowledge of diseases like HIV/AIDS, Hepatitis B and C. There is a significant difference in the knowledge of preclinical and clinical medical students. The comparison of preclinical students is more justified with the students of non health professions to have an idea of situation.

The knowledge of pre clinical students seems to be much lower, which is a matter of concern as the similar situation can be expected in students from non medical backgrounds (Anjum *et* al, 2005; Tufail, Ali & Sheikh, 1999). Khan *et al* in 2005, investigated the knowledge of common diseases in a female medical university of Karachi, Pakistan and found that even medical student have low levels of knowledge about Typhoid, tuberculosis and Hepatitis B and C. Youth of India has got a good knowledge about condom as a protective mechanism but the application of knowledge either due to social stigma or carelessness, is not satisfactory (Mathai, Ross & Hira, 1997).

These low levels of health awareness in the South Asian Students, while living in their home countries is comparable to the levels of awareness while their stay in the UK. This could give some idea of the lack of information about Hepatitis C in them.

2.2.4(e). High prevalence of Hepatitis C in south Asian students:

The lack of knowledge and exposure to risk factors in students may result in high prevalence of disease them. The evidence of disease in South Asian students has also been found in the researches done in South Asia as well as in other countries. High prevalence of disease was seen in the overall Asian students in Italy (Beggio *et al*, 2007), although this piece of research is not very specific as Asia is a big continent with several countries but the main point is that the prevalence found in this study coincides with the WHO figure which are highest in Africa followed by South East Asia. Inside South Asia, the prevalence of disease has been seen as high as 23.5% in the people of ages 20 years and above, in a city of Lahore, Pakistan. This correlates to the student group of South Asia as many university students fall within this age group (Aslam & Aslam, 2001). Although in other parts of the world there are many studies relating to the problem of Hepatitis C in students but mostly medical students have been targeted in such studies because of the increased chances of exposure to risk factors like blood and secretions of patients (Cervini & Bell, 2005; Al-Sohaibani et al, 1995). A study in Poland looking at medical students found an interesting aspect, generally it is thought that medical students are exposed to patient's secretions and accidental pricking than non medical students and thus theoretically there would be high prevalence in them. Although there is not much studies practically comparing these two groups but there is an evidence that actually non medical student have more prevalence of disease (1.7 %) as compared to (1.4 %) the medical students, possibly because of other risk factors like percutaneous medical interventions and blood transfusion (Braczkowska et al, 2006). A research paper mentioned the likelihood of being HCV infected is 5-10 times higher in non-Caucasians than Caucasians but unfortunately, not much research has been done to look deeply in to it, to have a better understanding of epidemiology of disease in the UK. Some researchers mentioned back in 1994 that the differences exist in prevalence of Hepatitis C in Caucasian and non-Caucasian population (MacLennan et al, 1994). As a result it can be concluded that documented Hepatitis C prevalence is higher in the students as revealed by different studies.

2.2.4 (f). Conclusion:

It can be concluded from the above review of literature that the prevalence of Hepatitis C is higher in the South Asia with a lot of factors contributing to the continued spread. In the UK, the Hepatitis C action plans have not been implemented properly by PCT's to deal with the problem in effective manner. Although the documented prevalence of disease is still low but possibility of high prevalence is there because of high immigration rates and absence of data collection on immigrants. Regarding South Asians, fears have been shown by some departments but in spite of being high risk population. In this situation, there is a little knowledge about South Asian immigrants in the UK and scarce information is available regarding the International South Asian students, while living in the UK. Students make a big population out of these immigrants and can not be ignored. The evidence suggests either high or same prevalence in students with comparison to general population. The high involvement of students in the risk taking behaviours makes the students more vulnerable to the disease. So there is an urgent need of the initiation of research to look in to their knowledge about the Hepatitis C and to determine the need of high risk group awareness in them as timely measures would be helpful in reducing the morbidity and mortality by the disease in the UK. So this study has been arranged to look more deeply in to the knowledge of student regarding Hepatitis C, so that the plan of action can be suggested to promote preventive measures in this group.

CHAPTER 3: METHODOLOGY

3.1. Research Approach:

Quantitative research has been selected for this study as in researcher's view; it is the most suitable approach to fulfil the aims of study. Here we want to know about the descriptive data of the number of student having good knowledge of Hepatitis C within the sample group so that we are able to generalise it to the parent population that is International South Asian students. The literature was consulted and it showed that the qualitative approach could have been more appropriate if we were trying to know about the attitudes, believes and perceptions in this group that leads to certain levels of awareness in these them (Creswell, 1994).

3.2. Research Design:

Cross sectional survey research design has been undertaken to answer the question. Cross sectional survey is frequently referred to as the universe of a study which means it can be used by any researcher any where and in any situation (Sapsed, 2007). This method would also be more appropriate here as it is capable of fulfilling the basic requirement of researcher that is to look for the information that respondents may have got regarding the issue under discussion. This method suits best in this context because of limitations of completing the study within the given time limit of few months and less funds available to undertake the study. Quicker turnout of the response has also been considered while choosing this design. This cross sectional survey has also been given preference over other methods of research like experimental methods, as there is no need of any active intervention or close observation of participants, here there is demand of a snap shop picture of sample, which would be provided well with a this type of research design.

Survey is a technique of data collection that is systematic and structured (Sapsed, 2007). A combination of two types of self administered surveys that is *one-on-one and group Surveys* in the presence of surveyor has been used in this research. Other nearest possible options to achieve the aims could have been mail surveys, electronic surveys and one-on-one interviews. Self administered type of survey has been chosen to reduce costs, provide an opportunity for participants to clarify any doubts and above all, to get an high response rate which is least possible with mail surveys (Bourque, 1995). Moreover in student population the feedback is expected to be more even lower. Accessibility to the University database for the list of mail addresses would also have been a problem. Self administered questionnaires are also better than mail questionnaires in the way that the researcher is sure about the person who is filling in the questionnaire is the same one who was meant to fill it in and person is not taking others help (Bourque, 1995) . Interviews were not done because of comparatively more costs involved along with less availability of technicalities involved in recording and interpreting data. Although there are admitted disadvantages of self administered surveys like non representative convenience samples in this scenario. Others disadvantages mentioned by literature like inadequate literacy levels do not apply on this group of population (Bourque, 1995). Data was collected from students of University of Bedfordshire, Luton during May- June 2008. Data collection started by approaching students personally known to the researcher at

the Park Square campus in cafeteria and learning resource centre (social learning space). The contacts of south Asian students provided by participants were utilized to access more participants. The purpose of study was explained to the students orally and then questionnaire were presented after verbal consent of participation in the study. Although the first page of questionnaire also explained the same information in detail. Any related queries were answered. During the data collection period, because of end of semesters and start of holidays the students turn out in the university campus was lower than expected. So residential halls were approached by using contacts provided by participants as well as student union representatives. Group administered survey was also used in this study to give a boost to the number of participants and save time. Susan Sapsed (2007) explains about the groups administered surveys in her lecture at University of Bedfordshire as "this type of surveys are generally administered to a sample of respondents in a group setting, guaranteeing a high response rate. This type of written survey can also serve a variety of specific purposes, particularly if you are trying to survey a very specific group of people". Taking the advantage of vice chancellor's introductory meeting with International South Asian students the questionnaires were distributed and collected back from the university conference hall with the kind permission of vice chancellor. Along with snow ball sampling with a slow progression towards a reasonable number of participants, this tool provided an opportunity for the researcher to get a good number of participants.

3.3. Instrument (Questionnaire):

The Questionnaires used in the study was designed by the researcher. It was counter checked and approved by the supervisor, who suggested some corrections which were followed. Researcher tried to balance the demand of extracting valuable and most relevant information in a short passage of time. While designing the questionnaire the guideline from the book by Linda B. Bourque and Eve P. Fielder (1995, p.16) have strictly been followed, they suggest that "the self administered questionnaires must be shorter than questionnaires administered in other ways" and "the questions on self administered questionnaires should be close ended". It has been understood that the validity and reliability is dependant on the instrument being used in the research but due to unavailability of suitable and comprehensive questionnaire, it has been preferred to use a self designed one. Extra care was given to make the questionnaire as simple and short as possible. Due considering was given to the writing by Ann bowling (2002) that "Response rate vary widely, depending on the sponsorship and nature of the topic of study, its saliency and length of the questionnaire". The wording and language was also kept very simple and easily understandable, while avoiding any complex medical terminology because firstly, the majority participants are expected to be from non medial and non health sciences backgrounds and secondly, English is not the first language participant's. Although, they are well educated and capable of understanding and reading English comfortably. The questionnaire comprised of close ended questionings with yes and no options. Although at end of some question some space was left under the heading "others" so that participants can add other options coming in their mind which may not listed in the list. The residual "other" increases the flexibility in answer categories (Bourque, 1995). Clear instructions were provided to fill in the questionnaire by ticking the desired option.

There were 12 questions in total, with sub categories ranging from 3 to 8.The questions were aimed at knowing about the general statement of participants about knowledge of disease (Q. no.1), the questions on usual symptoms faced after exposure (Q. no.2), different route of transmissions (Q. no. 4, 5, 6, 7 and 8), availability of vaccine for protection (Q. no. 9), idea of prevalence (Q. no. 10 and 11) and progress of disease (Q. no.12). In the end, participants were asked to provide the email address or postal address on a separate page, if they wish to receive the results of the study.

3.4. Piloting:

Initially 10 people were given the questionnaire to fill up and then discussion was done about the understanding of wording and clarity of inquired subject to confirm that the theme behind asking each question was fulfilled. Other intentions were to have an idea of actual costs and time required for the study. No serious threats in term of reliability and validity were found so the project was started to access more participants.

3.5. Characteristics of population under study and sample size:

University of Bedfordshire, situated in Luton is an institution with 13, 876 students from diverse range of ethnic backgrounds (University of Bedfordshire Student's Union, 2008). The overall male to female distribution ratio is 64:36. It is a suitable place to study south Asian students because, firstly, this university has got representation of all major countries of south Asians. Secondly, it is convenient for the researcher to conduct a research in this university within limited resources. Thirdly, the ethical permission for conducting research was expected to be relatively easier than other places.

International south Asian students from 2007-2008 sessions have been selected for the study from this institution, irrespective of the campus of education for instance Park Square campus or Putteridge Bury campus etc.
The researcher's personal inquiry from Imran Tahir Mian, who is the democracy officer in the student Union of University (28 April, 2008), revealed the following number about South Asian students:

Pakistani:	163
Indian:	317
Bangladeshi:	77
Sri Lankan:	24
Total:	581

This number represents both under graduate and post graduate students. Most of these students are expected to be from non-medical backgrounds with male predominance.

As described earlier, the sampling was done by *Snow ball* methodology starting from a group of south Asian students who are members of south Asian society of University and are known to researcher as being member of society. And then using their cooperation other individuals and groups of students were approached. This appeared to be the most appropriate method to approach this study group in the absence of any list of individuals which is inhibiting the systematic sampling. So

despite the bias potential of purposive sampling, researcher has chosen it as it is the most appropriate method in this scenario. Systematic sampling can deliver better results but it was nearly impossible in this scenario because of the access to the University data regarding students. In that case response rate would also have been very low in mail or electronic survey because the duration of period in which the research was supposed to be completed was towards the end of semesters. During holidays, less number of people stay in touch with the university as well as they are not available at the Residence Halls was also unexpected. Bearing in mind that there could be flexibility in the sample size and if the population under study is thought to be homogenous such as students then even small numbers can give reliable results (Bryman, 2004). A total of *71 Students* were included in the study, irrespective of age and gender from this group. Exclusions were only those participants, who refused to participate in the study. Variable length of stay in UK as a student and previous educational background could be confounding factors in this study.

3.6. Data management:

Data has been processed by using Statistical Package for the Social Sciences (SPSS) software version 12.0.1. Analysis of the data has been done by descriptive statistics with frequency distributions and cross-tabulations. Responses which are most important in terms of determining the awareness levels have been analysed and discussed while complete results have been included in the Appendix. Statistical analysis has been done at 95% C.I and P values < 0.5 were considered significant. Chi square test has also been used to see statistical significance. Data has been presented in the form of text, tables and bar charts.

3.7. Ethical Issues in the research:

Ethical considerations have been given special importance in this research while dealing with participants as well during the other research process.

3.7.1. Ethical considerations in relation to the research:

The research proposal was submitted to the university's ethics committee. It explained the details of the study such as introduction and background to the topic, the aims and objectives of undertaking research and all the method involved in the research. No information regarding the actual research was kept concealed from the ethical committee. The research proposal was reviewed by experienced supervisor and University's ethic committee. Actual research was started after obtaining the ethical permission and indemnity letter from the university (please see attached in appendix).

No false claims or false entry have been introduced in to the research and no manipulation of data has been done to suit any kind of predefined results. Data has been entered by researcher and extreme care has been taken in data entry. Desired help on the data analysis has been obtained on the templates rather than the actual data. The reporting of the results has been done on the basis of actual findings and no sentiments have been introduced in to the research.

3.7.2. Ethical considerations in relation to the participants:

Participants were approached in a polite manner to introduce the study. No compulsive language was used to persuade participants. While encountering groups of people with mixed ethnicities, due apology was presented for keeping few people (south Asians) busy for a little while and explanation was given that this research is based on studying south Asians only. Voluntary participation was offered to the participants and informed consent has been taken to participate in the study. Anonymity of participants was promised and taken measures to protect anonymity of participants (Bryman, 2004). Confidentiality was promised and measures were taken to safeguard it. The addressed of participants will be kept separate from the questionnaire and will be kept locked separately from the questionnaires, with the researcher. Addresses will not be forwarded to anyone else and will only be used for dispatching results of the study. Addresses will be disposed off after dispatching the results, while filled in questionnaires will be kept for a certain time to fulfil university requirements.

In this study, participants were given the right to withdraw to study at any time. It was clearly explained to the participants that this research is not aimed at determining their intelligence levels; rather it is meant to just to assess the knowledge of a particular disease. It was done to make sure that they do not feel embarrassed in case of less familiarity with the disease. Request was made to the participants to give honest answers to the best of their knowledge and ability. People starting conversation in the regional language were replied and explain in the same language like Urdu, Punjabi and Hindi (their native languages), to make them feel more comfortable with the researcher. There has been no harm done to the students and benefits of the study are thought to help the future international students as well as general population. Names of the students were never mentioned on the questionnaires and the page of writing the addresses will be kept separate from the questionnaires to ensure anonymity. Promised feedback has been provided to the participant seeking more information on the topic and any concerned queries of the participants have been welcomed and answered.

3.7.3. Other Ethical considerations:

Principles of Beneficence have been fulfilled as the study is going to benefit the human beings. Principle of justice have bee followed and no discrimination between the groups of south Asians has been done the basis of age, race, language or religion (Oliver, 2004).

3.8. Costs:

The survey has been completed with overall expenditure of about 100 pounds. Details of expenses are as follow:

Questionnaires printing costs:			
25 pence per questionnaire	=	£0.25 x 75 =	£ 18.75
Transport			+
Diesel costs and parking tickets	=	approximately	£ 70.00

(To reach participants)

			+
Costs of postage of results	=	approximately	£ 10.00
(In case of mail option, availed by participants)			----------
Total costs (Approximately)	=		**£ 98.75**

3.9. Time Scale:

Month	Task	Remarks
February 2008	• Submission of research proposal. • Contacted People who have already done similar studies to get the questionnaire used by them.	Seeking guidance from supervisor
March 2008	• Preparation of own Questionnaire and start of literature search.	Keeping in contact with supervisor for feedback on question's structure and wordings.
April 2008	• Obtained Ethical approval from research ethics committee of the university. • Finalised the questionnaire design by making changes on supervisor's feedback • Piloting of questionnaire	Seeking and obtaining guidance and support from supervisor
May 2008	• Contacted more participants after satisfactory response on questionnaire.	Seeking and obtaining guidance and support from supervisor
June 2008	• Data collection	Obtaining guidance from supervisor and keeping him up to date with progress
July 2008	• Gathered literature and obtained help from librarians due to scarce literature on the topic. • Contacted those researchers in the UK who shared same interests.	Obtaining guidance from supervisor and

August 2008	• Data Entry and Analysis • Writing up dissertation side by side.	Seeking and obtaining guidance and support from supervisor and keeping him up to date. Taking help from statistical advisor in the university by the reference of supervisor.
September 2008	• Completing the Writing of dissertation and obtaining feed back on drafts.	Seeking and obtaining guidance and support from supervisor and keeping him up to date with progress
October 2008	• Submission of final work	Seeking and obtaining guidance and support from supervisor and keeping in touch till the last moments to get feedback on writing of dissertation.

3.10. Limitations:

1. The systematic sampling techniques have not been utilized because the access to the list of addresses (due to data protection law), could not be achieved, so this study may miss some students of the university with different levels of knowledge and views.

2. As the problem mentioned, in a big scenario, is related to immigrants from south Asia to UK. But in this study there is inclusion of only one category of immigrants that is students. Other immigrants may vary in many terms for example age, educational background etc. So the results of study may not be generalized to all south Asian immigrants.

3. Time consumption for accessing a lot of students personally has proved to be time consuming procedure so the number of students included in study is less than the target of 100 participants set in the beginning of study.

4. There are chances of recall bias of participants in certain questions.

5. A few students unfamiliar with the disease refused to participate as they may be embarrassed for less knowledge over this issue. Bowling (2002, p. 268) writes “Non-responders may be different in some way from responders. However, research evidence on the characteristics of non-respondents is inconsistent, and is likely to be partly linked to the topic of survey”.

6. There might be differences between the knowledge of postgraduates and undergraduate as well as student from Health Sciences and other backgrounds.

CHAPTER 4: RESULTS AND DISCUSSION

4.1. Demographical data of the international South Asian students:

Target sample of respondent International south Asian students consisted of 71 students. The Demographical characteristics of this group are presented in Table 4.1. Majority of students were 25 to 30 years old (54.9%), and then there was a group of students below 25 years (26.8%) and a small group of participants above 30 years of age (18.3%).

Table 4.1: Demographical Features of Respondents

Variable	No.(%) of students
Age (years)	
<25	19 (26.8%)
25-30	39 (54.9%)
>30	13 (18.3%)
Sex	
Male	53 (74.6%)
Female	18 (25.4%)
Country of origin within south Asia	
Pakistan	19 (26.8%)
India	32 (45.1%)
Sri-Lanka	8 (11.3%)
Bangladesh	9 (12.7%)

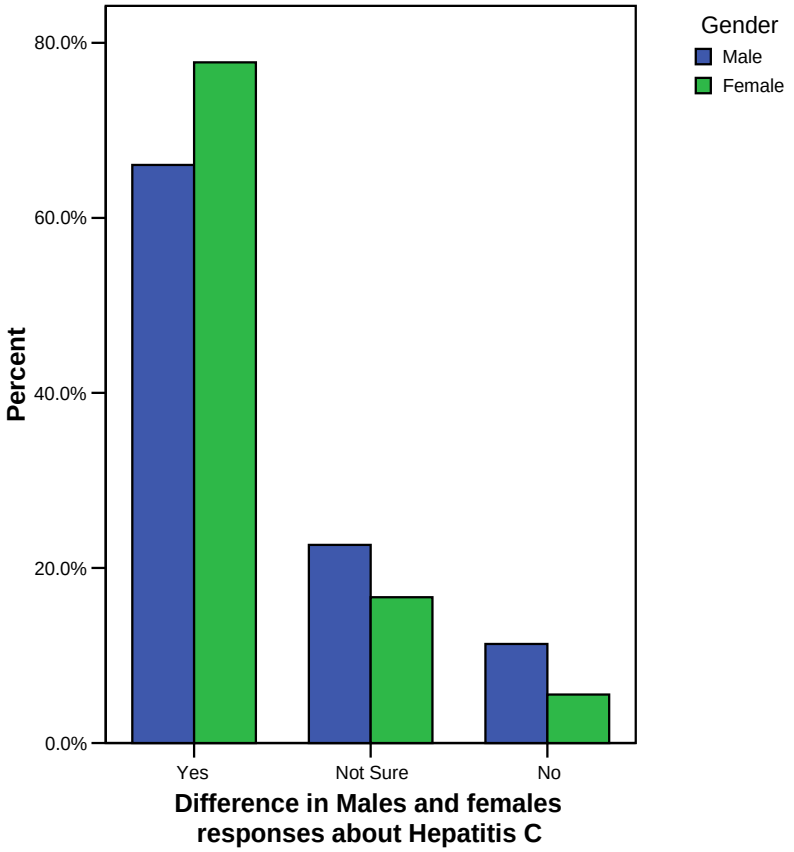
Average age of questioned respondents was 26±3.14 years. Majority of students were younger than 30 years. All participants were International students of University of Bedfordshire. Male participants were more (74.6%) and majority of students (45.1%) were from India.

4.2. Self Reported knowledge about Hepatitis C:

The enquiry about knowledge of Hepatitis C was made from participants to know about the familiarity of participants to the subject under discussion. About one third of

participants (69%) responded in yes, while out of the remaining one third, 21.1% were not sure about it. Only 9.9% of the participants said no to this question. So a simple statement can be made here that majority of participants are confident about their knowledge of the disease. Later findings will determine that whether this statement is based on the actual level of knowledge about the subject or not. In the light of this kind of response, approximately one third of participants are expected to show good or at least acceptable knowledge of the disease.

Figure 4.1: Self reported knowledge about hepatitis c is higher in females than males.



In this part of the study, the information of the disease seems to be highest in the in female participants (figure 4.1). The Pakistani participants and above 30 years age groups have shown also shown high familiarity with the disease than other ethnic groups.

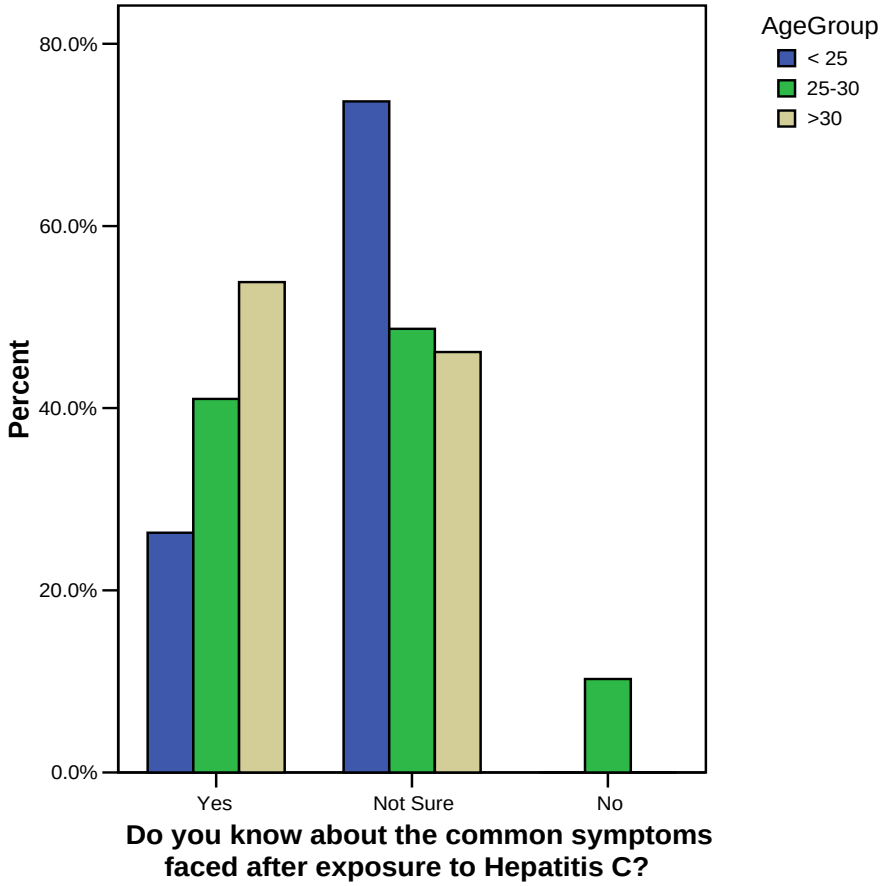
4.3. Knowledge about the symptoms of Hepatitis C:

As the literature mentions, that only 30-40% of the patients are expected to develop signs and symptoms of the disease within 2 to 26 weeks of the exposure to HCV (Centre of Disease Control and Prevention, 2005)**.** In case of development of symptoms, the knowledge about signs and symptoms can play an important role. Awareness about the problems will help the public in their self assessment as well as seeking the medical advice in early stages of the disease. The findings of our study

have shown that the self reported knowledge about symptoms of Hepatitis C, seems to very low as only 28 out of 71 participants (39.4%) responded positively while more than half of the participants (54.9%) said that they are not sure about the symptoms of the disease. The pattern of results seen in this part of the study is contradicting with the self reported general knowledge of disease, mentioned earlier.

The self reported knowledge about the symptoms seems to be high in the participants above 30 years of age (figure 4.2). The highest knowledge has been observed in the Indian participants within four sub ethnic groups of South Asians that are included in this study.

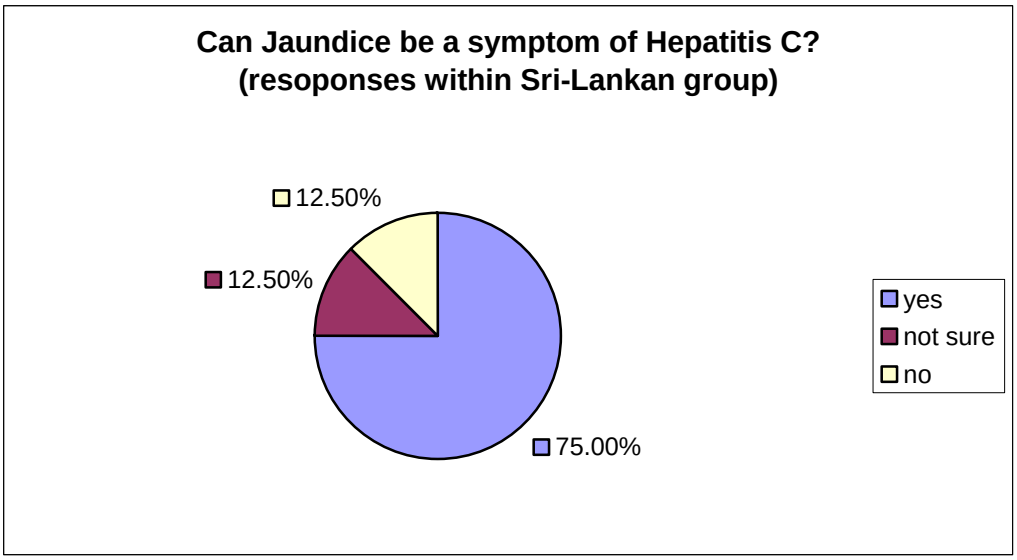
Figure 4.2: Higher self reported knowledge about symptoms in the age group above 30 years.



Jaundice or yellow discolouration of skin and sclera is a very obvious sign and symptom of the disease and can be noted very easily by the patient or people around him/her. Although jaundice can be a symptom of various medical disorders involving excessive blood cells destruction, but actually it denotes the high amounts of bilirubin in the blood which could be because of various reasons. Jaundice is also used as a lay man term, commonly associated with the “Hepatitis” and for many people, the absence of yellowness mean there are no chance of the disease. The same kind of general impression has been seen in our study as only 6% of the participants denied the absence of this symptom in Hepatitis C infection. 64% people responded in the favour of the presence of this symptom with Hepatitis C. But a considerable fraction of participants responded that they are not sure about the relation of jaundice with

Hepatitis C. These people may have been confused because of different types of Hepatitis or it could be that their knowledge in actually poor in this regards. If this group is considered to be unaware of this symptom then it can be commented that the overall results are not satisfactory about the knowledge of this symptom. Female (72.2%) and Sri-Lankan (75%) participants seemed to be more aware of the fact that jaundice can be related to Hepatitis C (Figure 4.3).

Figure 4.3: Comparatively high levels of awareness in Sri-Lankan participants about jaundice as a symptom of Hepatitis C.



Occasionally, the patients with Hepatitis C infection can feel sharp pains in the right upper quadrant of abdomen. These are agonising pains that are not necessarily related with stage of disease as people with moderate disease may also feel severe pains. These pains usually settle with the treatments but some times they may persist. In our study, only 36.6% (26/71) participants thought that abdominal pain can be felt after exposure to HCV while an equal number of participants were unsure about it. A quarter of participants (25.4%) have responded surely that abdominal pain was not be related with Hepatitis C infection. Participants above 30 years (46.2%) seemed to relate this symptom to Hepatitis C more accurately than other age groups. About one third of participants below 25years of age (31.6%) disagreed with the existence of any relation between Hepatitis C and abdominal pain. Most of females (72.2%) have either denied the fact or they are unsure about it as compared to 43.3% males who are sure about the relation. So males have better knowledge about this symptom of the disease. Bangladeshis and Pakistanis have shown lowest levels of knowledge about this symptom.

4.4. Facts about the transmission of Hepatitis C:

As described above, Hepatitis C may show symptoms within few weeks of exposure to the virus or it may not show itself at all in the beginning of infection. Only a small proportion of people would be able to clear the virus from their bodies, while in others, the disease progresses to chronic stage. Patients may remain carriers of disease for even decades before showing the symptom and signs of chronic infection but

remains capable of transmitting infection to others. So the awareness about routes of transmission plays a vital role in spread of the disease.

In this study we tried to explore specifically, the awareness levels about transmission of the disease in detail. The self reported knowledge about Transmission of the disease revealed that just 27 out of 71 participant think that they knew about the transmission of disease while majority (54.9%) was unsure about it. Above half of participants in 30 years age group thought that they know about the transmission routes while about 90% participants from below 25 years age group were not sure about it or they did not know about it at all, which is obviously a worrying sign. Males have shown better self reported knowledge of transmission (39.6%) as compared to the females (33.3%). Among four ethnic groups studied, Pakistanis (57.95%) had highest levels of self reported knowledge about transmission and Bangladeshis had shown least self reported awareness levels (22.2%) about the ways of spread of the disease.

After asking from participants about their view of knowledge about the disease, they have been asked specifically about different routes of the spread of the disease. According to literature, Hepatitis C does not spread by close contacts like kissing, hugging, hand shaking and sharing eating utensils. In our study when participant were first inquired generally about the spread by close contacts and then were asked separately for the important forms of close contacts such as kissing and hugging and others. In response to the general query about chances of transmission related to the close contacts, the findings suggested that only 17 out of 71 participants (23.9%) knew about the fact that the disease can not spread by close contact. About 29 out of 71 participants were not sure and about one third replied (35.2%) that the disease can spread by having close contacts with the infected person. Participants above 30 years age group (38.5%) were more aware of the true fact while there are no significant gender differences in the responses. Indians seemed to be more aware of the fact. Sri-Lankan participants have shown less awareness as 37.5 percent of Sri-Lankan participant wrongly said that Hepatitis C can spread by close contacts followed by another big portion of 62.5 percent, who were not sure about it.

In response to the query on transmission of Hepatitis C through kissing, about one third (22/71) of the participants surely said that yes it can be transmitted by kissing while about 40% (28/71) were not sure about it. Thus only 29.6% seem to know that the disease could not spread by kissing. This is a very low level of awareness. Looking further in to the different groups of participants, there is no significant variation between different age groups. Males seemed to be more aware of truth than females and Indians demonstrated better knowledge of the fact, than other ethnic groups.

We have compared the awareness levels of the participants about different ways of close contacts. Participants have more misconception about the spread of disease by kissing (31%) than other forms of contact, for instance hugging (11.3%), Hand shaking (8.5%) and sharing eating utensils (23.9%). This kind of knowledge can bring about social problems for the patients of Hepatitis C as people might try to avoid them without any logical reason because of the lack of knowledge about the disease.

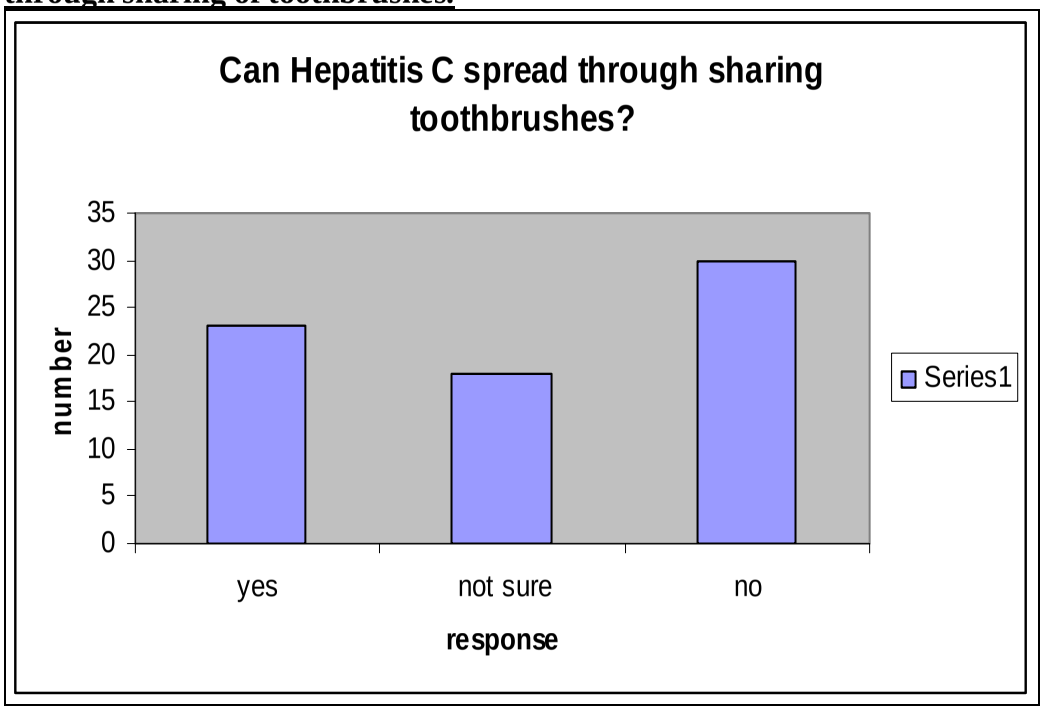
As mentioned in the first chapter, blood is the primary source of the spread of infection and disease can spread even through dried blood spots. Majority of participants (69%) seem to know that Hepatitis C spread by contact with blood of the infected person. Pakistanis (78.9%) have better knowledge about transmission through blood, followed by Indians (71.9%).

Only 19 out of 71 (26.8%) participants seemed to know that Hepatitis C does not spread by water under usual circumstances. Many Participants in the study have shown doubts over the spread of the disease through water, but the fact is that Hepatitis A spreads through water and Hepatitis C does not. 30 out of 71 (42.3%) participants wrongly thought that Hepatitis C can be transmitted through water. They have also shown the same kind of misconception related to the aerial route of transmission. It might be because of the term “infectious” related to the Hepatitis C, which was misinterpreted by majority of the people. In our study 34 out of 71 (47.9%) participants were not sure that whether the disease is transmitted through air or not. There is no significant difference in the knowledge of participants on the basis of age or gender. Indians have better knowledge as compared to other ethnic groups as nearly half of them (53.1%) knew that Hepatitis C does not spread through the air.

International students usually live in the University Halls or rented accommodations. As already mentioned in the chapter 2, many types of risky practices are more common and prevalent in the student population. Among other risk taking behaviours, intravenous drug use, sharing razors/tooth brushes and unprotected sex are more common in them. The researcher in this study has tried to explore their knowledge about the transmission of disease by these ways. In our study, 74.6 percent participants knew that the disease can spread through contaminated needles while only a small portion (8.5%) has disagreed with it. Majority of participants in 25-30 years age group (84.6%) seemed to know the actual fact. Most of Pakistanis gave the right answer (89.5%). There are no significant differences in relation to knowledge on transmission through contaminated needles. Awareness about transmission of disease by contaminated shaving blades is low as only 60% of the participants responded by the right answer, half of the Sri-Lankan participants did not know or they were not sure about it. The knowledge of females is less as compared to male participants about transmission by contaminated needles.

Sharing of toothbrushes is another way of possible disease transmission that is particularly important in relation to the group under study. About one third (67.7%) of the participants replied that either disease can not be transmitted through sharing toothbrushes (25.4%) or they (42.3%) expressed doubts over it by selecting the “not sure” option (figure 4.4). Participants above 30 years of age are the most aware group in this regard.

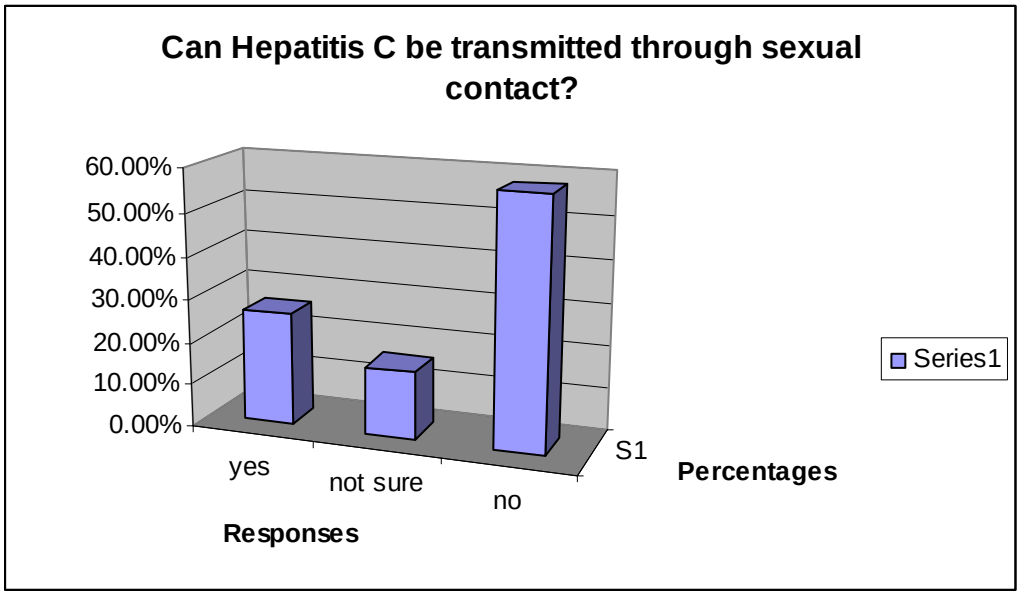
Figure 4.4: Extremely low levels of awareness about disease transmission through sharing of toothbrushes.



7 out 13 (53.8%) participants mentioned that Hepatitis C can spread through contaminated needles. The youngest participants in the study group (<25years) seemed to be the least aware group with regards to relationship between contaminated needles and Hepatitis C. Only 15.8% in below 25 years age group knew about the actual fact. Females (44.4%) and Bangladeshis (55.6%) seemed to be better informed than other groups. The overall awareness of the transmission by toothbrushes remains very poor.

The knowledge about transmission through surgical instruments and blood transfusions was also very low but they have not been discussed here in detail as the involvement of well managed Healthcare systems in UK is capable of controlling the transmission of disease by these ways. Although the rare but still possible transmission through unprotected sex is an important issue, regarding the student population. The awareness levels about sexual transmission of disease, as explored by this study were extremely lower as only one third (29.6%) of the participants recognise it as a way of disease transmission, while about 40% strongly disagreed about transmission by this route. Others (31%) who were not sure about this are more likely to be involved in practices that favour the transmission. Being doubtful is more related with the non-practicing of protective measures (figure 4.5). The eldest participants in the study group (>30) seemed to be more aware (38.5%) of sexual transmission than the other groups. Females (44.4%) were significantly more aware about the sexual transmission of disease than (24.5%) males. Pakistanis seemed to be the least informed as 11 out of 19 (57.9%), thought that sexual transmission can not play a role in transmission of Hepatitis C at all.

Figure 4.5: Knowledge of participants about transmission through sexual contact.



Regarding transmission of the disease through spoons and filter that are often used by drug addicts, the below 25 years age group and Sri-Lankan were amongst the least informed groups. Transmission from mother to baby has been in discussion for a long time and the chances of passing on infection are there although breast feeding is safe. In our study the overall awareness levels about this kind of transmission were very low as only one fourth of the total participants knew about it. As the problem is more related with females, they seemed to be more aware of the fact than males, that is 33.3% as compared to 22.6%. The optimistic point here is that no one in the female group said that HCV can not be transmitted from infected mother to baby, they have said either yes or not sure. Pakistanis (36.8%) seemed to be more aware of mother to child transmission while other ethnic groups have not shown any significant differences between them.

4.5. Information on the prevalence of Hepatitis C:

The literature reveals that the documented prevalence of Hepatitis C is Highest in the Africa (5.3%) with affected population of 31.9 million followed by high prevalence in South Asia (2.05%). It is lowest in the Europe with prevalence of 1.03% and even lower in the Western Europe (World Health Organization (2008). In our study, about half of the participants (36/71) mentioned South Asia as the highest region of prevalence of the disease. This was followed by 28.2 percent (20/71) responses in the favour of Africa and16.9 percent (12/71) in the favour of Europe. 25-30 years age group seemed to be more informed about the global prevalence of disease while most of participants in the 30 years age group (61.5), who had shown good knowledge in other sections, preferred the option of South Asia as a high prevalence of disease. This

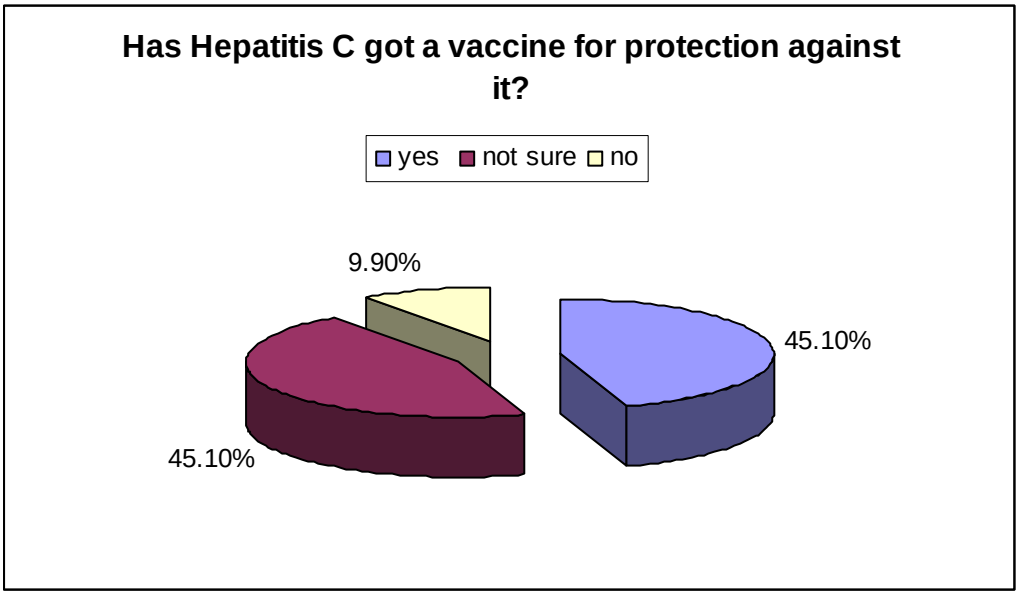
may the group who has heard more about Hepatitis C while living in south Asia and thus concluding that, it might be the area of high prevalence.

According to the World Health Organization (2000), the global prevalence of Hepatitis C is much higher with figures of 170 million cases as compared to 40 million cases of HIV/AIDS. The participants of this study were asked to choose between two diseases due to expectations that the wide spread campaigns for HIV/AIDS over the past decade have got bigger impact as compared to more prevalent but less publicised diseases. The results have revealed that 66.2% of the participants believed that HIV/AIDS is more prevalent in the world than Hepatitis C (29.6%), which is obviously not a right impression about the disease. Hepatitis C virus is as dangerous as HIV in some aspects. There is no effective natural immune response against HCV and also there is no vaccine for protection against the disease. This point towards the need of effective campaigns to highlight Hepatitis C, along with HIV/AIDS in the campaigns.

4.6. Concepts about the availability of vaccine:

Despite many advances in the medical science, the proper remedy for some diseases, still needs to be discovered. HIV/AIDS and Hepatitis C are one of those diseases. In the absence of vaccine for protection from HCV, the only shield for protection is the avoidance of the risk factors. Some of risk factors are related to personal behaviours such as tattooing, intravenous drug abuse and sharing toiletries while others are more closely related to the medical professionals such as blood screening and proper sterilizations. The avoidance of both kinds of factors can only be achieved by adequate levels of awareness on personal and professional levels. As already mentioned, the vaccine for protection against the disease is still to be discovered.

Figure 4.6: Low levels of awareness in the participants about non availability of vaccine.



The participants of this survey showed extremely low levels of awareness about the presence of vaccine for protection against HCV. Only 7 out of 71 participants (9.9%) showed the awareness about absence of vaccine (Figure 4.6). 45.1 percent participants were not sure about it and an equal percentage of people thought that Hepatitis C has got a vaccine. Participants above 30 years of age (23.1%) had the highest knowledge among age groups while 25-30 years age group showed least knowledge. There are no significant gender differences in the answers, as far as the vaccine availability is concerned. In researcher's view, the participants reply on presence of vaccine may be based on the shallow knowledge on recent government efforts, campaigns and scheduling of discounted camps in most parts of South Asian to promote the vaccinations against Hepatitis B virus.

4.7. Awareness about prognosis of the disease:

In our survey, a try has been made to briefly look in to believe of the participants about the progression and curability of the disease. One third of the (24 out of 71) participants were of the view that Hepatitis C is a curable disease. While a big number of participants (36 out of 71) were not sure about it and just 15% (11 out of 71) thought that the disease is not curable. Above 30 years age group (38.5%) as compared to other age groups and males as compared to females had stronger believes that the disease could not be cured. In response to the question about behaviour of disease only 1 participant expressed that he/she is not sure while about half of participants (36/71) thought that the HCV infection carries long period of illness. The other half of the participants (34/71) were of the view that the disease carries a short period of illness soon leading to death.

4.8. Summary of the results:

Self reported knowledge of Hepatitis C is 69%, it decreased to just 39.4% for symptoms and 38% for the transmission of disease. Highest recognition was observed in the participants regarding contaminated needles (74.6%) as a route of contracting infection, blood (69%) as a route of transmission and jaundice (64.8%) as symptom of the disease. Misconceptions about transmission of disease by close contacts such as kissing have been seen in majority of the participants. Some participants (59.2%) know about the transmission of HCV through contaminated shaving blades while only few (32.4%) know that it can be transmitted by sharing toothbrushes. Only 29.6% participants know about sexual transmission. Only 9.9% percent participants know that there is not vaccine for the protection against HCV.

Overall knowledge has been observed low in all groups included in the study. Although above 30 years age group, females and Pakistani's had comparatively better knowledge than others in their respective groups. Bangladeshi's, Sri-Lankan and participants below 25 years showed the least awareness about the disease.

4.9. Recommendations:

It is recommended for the University of Bedfordshire authorities that they should arrange for the campaigns in the university campuses and university halls especially

targeting south Asian International students. Student Unions should be directed to co-ordinated these campaigns as they would be more effective if organized with the collaboration of International office of the University of Bedfordshire and Luton PCT. These measures do not demand heavy investments and large number of staff, but can have a huge impact. A session on general health awareness including basic information on prevention of Hepatitis C should be highlighted for the International South Asian students, during the induction sessions. Information about Hepatitis C should be made available on the University website and leaflets with brief information should be made available at the International Office of the University. Involvement of wardens and peer group education can help in getting the message across for this group of students. Similarly the chaplain can also assist in the process by creating awareness in students who visit chaplaincy on Fridays or Sundays for their faith related gatherings.

Luton PCT and Luton Borough Council need to put efforts to attract the international south Asians students to come forward for the voluntary screening for Hepatitis C, if they consider themselves at the risk. The voluntary screening programme is already running under NHS but its circle of induction needs to be widened to facilitate the high risk groups. Luton Borough Council can also use this study to generalise the findings over the general south Asians of Luton, as the levels of knowledge of disease are not expected to be much different in them. Although this problem needs further investigation but initiation of the necessary course of action in the form of campaigns is recommended. For this purpose, the areas of high population of South Asians should be targeted.

There is need of awareness elevation on the other end that is in the south Asia, for immigrants and students. This can effectively be attained by making sure that there is an adequate supply of literature to visa inquiry stations in the south Asian countries.

At bigger scale, further research and is needed to evaluate the requirement and cost effectiveness of screening the immigrants from South Asia to the UK. If found necessary, some relevant changes in the immigration policy can help to control the situation. The Home office recommended laboratories with reliable reporting can be used for screening. As it is already being done for Tuberculosis screening in the immigrants from South Asia. The reports of screening should be submitted with the visa application form so that the records can be maintained.

Although the biggest challenge in dealing with the infectious diseases in migrants, is to tackle the global burden of the disease. UK can play its role and contribution towards better future of the global Health by effective policies to deal with the disease inside the UK and by assisting the developing countries in the fight against Hepatitis C.

4.10. Conclusion:

Finding of the study are suggestive that the overall knowledge of Hepatitis C among International South Asian students is low and insufficient. They are at a high risk of contracting and transmitting the disease due to known risky practices so they should be treated as high risk population for the disease. The matter is of high concern for the

Heath services and university management. There is an urgent need of campaigns to improve the awareness levels about symptoms and preventive measures against Hepatitis C.

CHAPTER 5

5.1. Plans of Dissemination:

The finding and recommendations of this survey will be sent to diverse range of people so that the benefits of researching this relatively new topic in the context of UK can be fully achieved. Results will be emailed and posted to the participants who have shown the interest to receive the results and have provided their addresses. The results will be accompanied by a brief introduction of disease, possible risk factors for contracting the disease and necessary measure to be followed to avoid the contact.

Results will be presented personally to the International office of the University of Bedfordshire so that they can design a policy to give information to the International students, possibly during the induction week. Results will be emailed to the University of Bedfordshire students Union so that they can discuss the matter with the Luton PCT to increase the awareness about Hepatitis C in the student, as they are already working together for sexual health, smoking cessation and alcoholism related campaigns. Involvement of Luton PCT can really make a difference by attracting people in the International South Asian group of students, to come for voluntary screening. As the researcher is the project leader of the Health Outreach Project of University of Bedfordshire, the results will be delivered to volunteering department and other people from Luton PCT, who routinely visits Park Square campus for different kinds of Health awareness workshops. In addition to these the results will be emailed to some people in the Luton Borough Council and Luton PCT, whose contacts have been provided by the supervisor. The results will be posted to the General Practitioner (Dr. McGill and partners), as they have large number of University students registered with them. The results with a note of thankfulness will be sent to all other people who have helped in this project.

The findings and recommendations will also be sent to the Hepatitis C Trust, Health Protection agency and the Department of Health so that they could benefit from this paper by applying it on a broader scale or they can initiate further research on a broader scale. This paper will also be sent to newspapers and journals for publishing, so as to make it available for a wider audience having interest in the problem.

5.2. Reflections on learning:

The first impression of module was that it would a new experience to apply the knowledge gained in last semesters but it actually proved to be a lot more than this. It has helped me to practise the existing knowledge and has taught me the new valuable skills. Looking back at the whole process, it looks like a fairy tale with some sweet and bitter parts but having a strong moral lesson at the end.

After assembling the research question was constructed based on the convenience to research, background knowledge of topic and population under study, ethical limitations and research gap. Then search for appropriate method was done. The questionnaire was designed smoothly and with some fine tuning by supervisor it was ready to be used. Snow ball sampling was expected to be relatively easy. But when the project started, it looked really difficult and time consuming to access each and

every person and get the questionnaires filled up. Unfortunately the examinations were going on during the period of research and it made things tougher to get the attention of people and access them with references (Snow ball technique). So as a result, the preset target of 100 filled in questionnaires could not be achieved but I was able to get 71 filled in questionnaires which were thought enough by the supervisor to proceed to the next step. The experience of working with the student was very good. It highlighted the need of cultural awareness of the study group to undertake a research and it helped to practise the ethics of research. The literature review continued side by side, it was bit frustrating that there was not much research on the topic in the UK. By the help of librarians and tutors it was concluded that actually there is not much research on the topic within UK so I will have to use relevant supporting studies done else where and UK government reports to make the argument. Having a medical background and less interest in the calculations, data analysis seemed to be a big problem. But kind help from the university staff solved this problem. Data entry was a hectic procedure but after that it was a real fun to keep playing with the numbers in the SPSS. It would a valuable experience by virtue of this module that researcher has learnt the basic usage of SPSS.

Going through the literature was inevitable, both for literature review as well as methodology section. Social Research Methods by Allan Bryman and Research Design by John W. Creswell provided and Ann Bowling's research methods in health were particularly useful for understanding the process of research. Other than these, plenty of books from the library were consulted. Online journals really taught the way to present the findings and methodology of research. As the university's has not got the Athens subscription any more so it was difficult to get hold of complete research studies online.

Applications of the learned ethical considerations have also helped me to learn the skills of balancing between the demands of research question with rights of the participants. I have learnt that safety and protection of the participant can never be compromised. This module has helped me to develop good awareness of the moral and physical protection of the participants. I have repeatedly found myself comparing the ideal situation and past experiences of involvement in the situations where ethics play a role.

I believe this slow process of learning will contribute towards making me a better Practitioner in the field of Health. Experience of this module has opened the vision about the basic concept of Public Health and has enabled me to look at things in a broader perspective. I have realized that dealing with a single disease in a single patient is completely different from dealing with multiple problems at a time which might be affecting many people. This definitely needs prioritising, deep understanding of implementation and cost effectiveness of any projects. Otherwise it may prove to be a big blow financially and time wise.

This module has also enabled me to build on the knowledge gained from previous semesters and enabled me to identify inadequalities in the health and the importance of culture in minimising the gaps between different groups of population. Rapid and efficient scanning of the literature to search for the relevant material is another valuable experience during of this project. This module is the collection of last 8 modules for me, which have slowly build a tempo for a full fledge research project

over the period of last one year. It is difficult to point out each and every thing but generally, this it has brought a mindset of looking at thing differently that is analytically and critically, rather than believing blindly in every document. Understanding of cultural diversity and cultural adaptation has been learnt during this project. The art of focussing on single subject and exploring it in depth has been introduced to me by this module.

Although some moments of desperation and hopelessness came during the project but overall it has been an informative and exciting exercise to gain the skills for future research practice in the field of Public Health.

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Appendix 1.1.

"Questionnaire for Hepatitis C"

I am Dr. Muhammad Waqar, pursuing MSc. Public Health. I am currently undertaking a study for my dissertation; the study is aimed at an insight in to the knowledge of International South Asian students of UOB, regarding Hepatitis C.

I need your kind help and cooperation to complete this study. All you need to do is to fill up a questionnaire which would take **approximately 5-10 minutes**. Questionnaire is not meant for judging any professional knowledge or Intelligence levels. It is meant for determination of information that you may have about this disease, so please feel free to give answers to the best of your ability/knowledge.

The participation is voluntary and you have the right to withdraw from this study at any stage, you can do so by emailing me at 0712115@beds.ac.uk. All the information provided by you will be dealt with anonymity and strict confidentiality.

Filling up this questionnaire and handing it back to me will be considered as your consent for participation.

Thank You

Questionnaire

Please tick in the appropriate box, anything other than given options can be written under 'others' heading.

Age: ……. **Gender:** …….

Ethnic origin: ……

1. Do you know, what is Hepatitis C?

Yes	Not Sure	**No**
☐	☐	☐

2. Do you know, what are the common symptoms faced after exposure to Hepatitis C virus?

Yes	Not sure	**No**
☐	☐	☐

If yes, which of the following apply?

	Yes	**No**
a) Yellowness of skin and sclera (jaundice)	☐	☐
b) Flu like symptoms	☐	☐
c) Abdominal pain	☐	☐
d) Weight loss	☐	☐
e) Generalized weakness	☐	☐

Others…….

3. Is Hepatitis C, a curable infection?

Yes	Not Sure	**No**
☐	☐	☐

4. Do you know how does it spread?

Yes	Not Sure	**No**
☐	☐	☐

5. Do you think it spreads by close contact with infected persons?

Yes	Not Sure	**No**
☐	☐	☐

If yes; does it spread by?

	Yes	No
a) Kissing	☐	☐
b) Hugging	☐	☐
c) Hand shaking	☐	☐
d) Sharing eating utensils	☐	☐

Others…….

6. Does it spread through?

	Yes	No
a) Blood	☐	☐
b) Water	☐	☐
c) Air	☐	☐

Others……

7. Can it be transmitted through?

	Yes	No
a) Contaminated needles	☐	☐
b) Contaminated shaving blades	☐	☐
c) Sharing Tooth Brushes	☐	☐
d) Surgical instruments	☐	☐
e) Blood transfusion	☐	☐
f) Unprotected sex	☐	☐
g) Spoons and filters (Used for Intravenous drug use)	☐	☐

Others……....

8. Can Hepatitis C be transmitted from infected mother to baby?

Yes	Not Sure	No
☐	☐	☐

9. Like some other infectious disease, has Hepatitis C got vaccine for protection?

Yes Not Sure **No**

☐ ☐ ☐

10. Which disease is more prevalent in the world?

AIDS **or** Hepatitis C

☐ ☐

11. Prevalence of Hepatitis C is highest in:

Africa **or** south Asia **or** Europe

☐ ☐ ☐

12. What do you think, Patient with Hepatitis C has:

Long period of illness **or** less period of illness sooner leading to death shortly

☐ ☐

Thanks for filling in this questionnaire

****

Note: *If you wish to receive the results of this survey, Please provide your email or name and mailing address on the next page, which would be kept separate from this questionnaire.*

Email Address: …….

Postal Address: ……
…….
…….

Appendix 1.2.

Results:

1.2.1. DISTRIBUTION OF ANSWERS (Absolute numbers and percentages)

Q. 1. Do you know, what is Hepatitis C?	49	69.0%	Yes
	15	21.1%	Not Sure
	7	9.9%	No
Q.2. Do you know what are the common symptoms faced after exposure to Hepatitis C?	28	39.4%	Yes
	39	54.9%	Not Sure
	4	5.6%	No
Q.2.a. Can jaundice be symptom of Hepatitis C?	46	64.8%	Yes
	18	25.4%	Not Sure
	6	8.5%	No
Q.2.b. Can flu like symptoms be felt after exposure to Hepatitis?	22	31.0%	Yes
	31	43.7%	Not Sure
	17	23.9%	No
Q.2.c. Can abdominal pain be felt after exposure to Hepatitis C?	26	36.6%	Yes
	26	36.6%	Not Sure
	18	25.4%	No
Q.2.d. Can weight loss be faced after exposure to Hepatitis C?	21	29.6%	Yes
	27	38.0%	Not Sure
	22	31.0%	No
Q.2.e. Can Generalized weakness be felt after exposure to Hepatitis C?	17	23.9%	Yes
	31	43.7%	Not Sure
	22	31.0%	No
Q.3. Is Hepatitis C a curable infection?	24	33.8%	Yes
	36	50.7%	Not Sure

	11	15.5%	No

Q.4. Do you know, how does Hepatitis C spread?	27	38.0%	Yes
	39	54.9%	Not Sure
	5	7.0%	No

Q.5. Transmission by close contacts?	25	35.2%	Yes
	29	40.8%	Not Sure
	17	23.9%	No

Q.5.a. Transmission by kissing?	22	31.0%	Yes
	28	39.4%	Not Sure
	21	29.6%	No

Q.5.b. Transmission by Hugging?	8	11.3%	Yes
	34	47.9%	Not Sure
	29	40.8%	No

Q.5.c. Transmission by Hand shaking?	6	8.5%	Yes
	34	47.9%	Not Sure
	31	43.7%	No

Q.5.d. Transmission by sharing eating utensils?	17	23.9%	Yes
	29	40.8%	Not Sure
	25	35.2%	No

Q.6.a. Can Hepatitis C spread through blood?	49	69.0%	Yes
	13	18.3%	Not Sure
	9	12.7%	No

Q.6.b. Can Hepatitis C spread through water?	30	42.3%	Yes
	22	31.0%	Not Sure
	19	26.8%	No

Q.6.c. Can Hepatitis C spread through air?	6	8.5%	Yes
	34	47.9%	Not Sure
	31	43.7%	No

Q.7.a. Transmission through	53	74.6%	Yes

contaminated needles?	12	16.9%	Not Sure
	6	8.5%	No

Q.7.b. Transmission through contaminated shaving blades?	42	59.2%	Yes
	18	25.4%	Not Sure
	11	15.5%	No

Q.7.c. Transmission through sharing tooth brushes?	23	32.4%	Yes
	18	25.4%	Not Sure
	30	42.3%	No

Q.7.d. Transmitted through Surgical instruments?	30	42.3%	Yes
	18	25.4%	Not Sure
	23	32.4%	No

Q.7.e. Transmission through blood transfusions?	37	52.1%	Yes
	10	14.1%	Not Sure
	24	33.8%	No

Q.7.f. Transmission through unprotected sex?	21	29.6%	Yes
	22	31.0%	Not Sure
	28	39.4%	No

Q.7.g. Transmission through spoons and filters	14	19.7%	Yes
	27	38.0%	Not Sure
	30	42.3%	No

Q.8. Can it be transmitted from mother to baby?	18	25.4%	Yes
	43	60.6%	Not Sure
	10	14.1%	No

Q.9. Has Hepatitis C got a vaccine for protection?	32	45.1%	Yes
	32	45.1%	Not Sure
	7	9.9%	No

Q.10. Is Hepatitis C more prevalent in the world or HIV/AIDS	47	66.2%	Yes
	3	4.2%	Not Sure
	21	29.6%	No

Q.11. Prevalence of Hepatitis C is highest in which part of the world?	20	28.2%	Africa
	3	4.2%	Not sure

	36	50.7%	South Asia
	12	16.9%	Europe

Q. 12. Hepatitis C carries prolonged or short period of illness?	36	50.7%	Long period illness
	1	1.4%	Not Sure
	34	47.9%	Short period illness

1.2.2. Cross tabulations of Gender and the responses

Gender * Do you know about the common symptoms faced after exposure to Hepatitis C?

			Do you know about the common symptoms faced after exposure to Hepatitis C?			
			Yes	Not Sure	No	Total
Gender	Male	Count	21	29	3	53
		Expected Count	20.9	29.1	3.0	53.0
		% within Gender	**39.6%**	**54.7%**	**5.7%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	75.0%	74.4%	75.0%	74.6%
	Female	Count	7	10	1	18
		Expected Count	7.1	9.9	1.0	18.0
		% within Gender	**38.9%**	**55.6%**	**5.6%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	25.0%	25.6%	25.0%	25.4%
Total		Count	28	39	4	71
		Expected Count	28.0	39.0	4.0	71.0
		% within Gender	39.4%	54.9%	5.6%	100.0%

		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

Gender * Can jaundice be symptom of Hepatitis C?

			Can jaundice be symptom of Hepatitis C?			
			Yes	Not sure	No	Total
Gender	Male	Count	33	14	5	52
		Expected Count	34.2	13.4	4.5	52.0
		% within Gender	**63.5%**	**26.9%**	**9.6%**	100.0%
		% within Can jaundice be symptom of Hepatitis C?	71.7%	77.8%	83.3%	74.3%
	Female	Count	13	4	1	18
		Expected Count	11.8	4.6	1.5	18.0
		% within Gender	**72.2%**	**22.2%**	**5.6%**	100.0%
		% within Can jaundice be symptom of Hepatitis C?	28.3%	22.2%	16.7%	25.7%
Total		Count	46	18	6	70
		Expected Count	46.0	18.0	6.0	70.0
		% within Gender	65.7%	25.7%	8.6%	100.0%
		% within Can jaundice be symptom of Hepatitis C?	100.0%	100.0%	100.0%	100.0%

Gender * Can flu like symptoms be felt after exposure to Hepatitis?

			Can flu like symptoms be felt after exposure to Hepatitis?			
			Yes	Not sure	No	Total
Gender	Male	Count	13	24	15	52
		Expected Count	16.3	23.0	12.6	52.0
		% within Gender	**25.0%**	**46.2%**	**28.8%**	100.0%
		% within Can flu like symptoms be	59.1%	77.4%	88.2%	74.3%

		felt after exposure to Hepatitis?				
	Female	Count	9	7	2	18
		Expected Count	5.7	8.0	4.4	18.0
		% within Gender	**50.0%**	**38.9%**	**11.1%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	40.9%	22.6%	11.8%	25.7%
Total		Count	22	31	17	70
		Expected Count	22.0	31.0	17.0	70.0
		% within Gender	**31.4%**	**44.3%**	**24.3%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	100.0%	100.0%	100.0%	100.0%

Gender * Can abdominal pain be felt after exposure to Hepatitis C?

			Can abdominal pain be felt after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
Gender	Male	Count	21	18	13	52
		Expected Count	19.3	19.3	13.4	52.0
		% within Gender	**40.4%**	**34.6%**	**25.0%**	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	80.8%	69.2%	72.2%	74.3%
	Female	Count	5	8	5	18
		Expected Count	6.7	6.7	4.6	18.0
		% within Gender	**27.8%**	**44.4%**	**27.8%**	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	19.2%	30.8%	27.8%	25.7%
Total		Count	26	26	18	70
		Expected Count	26.0	26.0	18.0	70.0
		% within Gender	**37.1%**	**37.1%**	**25.7%**	100.0%

		% within Can abdominal pain be felt after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

Gender * Can weight loss be faced after exposure to Hepatitis C?

			Can weight loss be faced after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
Gender	Male	Count	15	21	16	52
		Expected Count	15.6	20.1	16.3	52.0
		% within Gender	**28.8%**	**40.4%**	**30.8%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	71.4%	77.8%	72.7%	74.3%
	Female	Count	6	6	6	18
		Expected Count	5.4	6.9	5.7	18.0
		% within Gender	**33.3%**	**33.3%**	**33.3%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	28.6%	22.2%	27.3%	25.7%
Total		Count	21	27	22	70
		Expected Count	21.0	27.0	22.0	70.0
		% within Gender	30.0%	38.6%	31.4%	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

Gender * Can Generalized weakness be felt after exposure to Hepatitis C?

Crosstab

			Can Generalized weakness be felt after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
Gender	Male	Count	13	22	17	52
		Expected Count	12.6	23.0	16.3	52.0
		% within Gender	**25.0%**	**42.3%**	**32.7%**	100.0%

		% within Can Generalized weakness be felt after exposure to Hepatitis C?	76.5%	71.0%	77.3%	74.3%
	Female	Count	4	9	5	18
		Expected Count	4.4	8.0	5.7	18.0
		% within Gender	**22.2%**	**50.0%**	**27.8%**	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	23.5%	29.0%	22.7%	25.7%
Total		Count	17	31	22	70
		Expected Count	17.0	31.0	22.0	70.0
		% within Gender	24.3%	44.3%	31.4%	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

Gender * Is Hepatitis C a curable infection?

Crosstab

			Is Hepatitis C a curable infection?			
			Yes	Not Sure	No	Total
Gender	Male	Count	20	24	9	53
		Expected Count	17.9	26.9	8.2	53.0
		% within Gender	**37.7%**	**45.3%**	17.0%	100.0%
		% within Is Hepatitis C a curable infection?	83.3%	66.7%	81.8%	74.6%
	Female	Count	4	12	2	18
		Expected Count	6.1	9.1	2.8	18.0
		% within Gender	**22.2%**	**66.7%**	11.1%	100.0%
		% within Is Hepatitis C a curable infection?	16.7%	33.3%	18.2%	25.4%
Total		Count	24	36	11	71
		Expected Count	24.0	36.0	11.0	71.0
		% within Gender	33.8%	50.7%	15.5%	100.0%
		% within Is Hepatitis C a curable infection?	100.0%	100.0%	100.0%	100.0%

Gender * How does Hepatitis C spread?

Crosstab

			How does Hepatitis C spread?			Total
			Yes	Not Sure	No	
Gender	Male	Count	21	28	4	53
		Expected Count	20.2	29.1	3.7	53.0
		% within Gender	**39.6%**	**52.8%**	**7.5%**	**100.0%**
		% within How does Hepatitis C spread?	77.8%	71.8%	80.0%	74.6%
	Female	Count	6	11	1	18
		Expected Count	6.8	9.9	1.3	18.0
		% within Gender	**33.3%**	**61.1%**	**5.6%**	**100.0%**
		% within How does Hepatitis C spread?	22.2%	28.2%	20.0%	25.4%
Total		Count	27	39	5	71
		Expected Count	27.0	39.0	5.0	71.0
		% within Gender	38.0%	54.9%	7.0%	100.0%
		% within How does Hepatitis C spread?	100.0%	100.0%	100.0%	100.0%

Gender * transmission by close contacts

Crosstab

			Transmission by close contacts			Total
			Yes	Not Sure	No	
Gender	Male	Count	17	23	13	53
		Expected Count	18.7	21.6	12.7	53.0
		% within Gender	**32.1%**	**43.4%**	**24.5%**	100.0%
		% within Transmission by close contacts	68.0%	79.3%	76.5%	74.6%
	Female	Count	8	6	4	18
		Expected Count	6.3	7.4	4.3	18.0
		% within Gender	**44.4%**	**33.3%**	**22.2%**	100.0%
		% within Transmission by close contacts	32.0%	20.7%	23.5%	25.4%
Total		Count	25	29	17	71

		Expected Count	25.0	29.0	17.0	71.0
		% within Gender	35.2%	40.8%	23.9%	100.0%
		% within Transmission by close contacts	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through kissing

Crosstab

			Transmission through kissing			Total
			Yes	Not sure	No	
Gender	Male	Count	17	20	16	53
		Expected Count	16.4	20.9	15.7	53.0
		% within Gender	**32.1%**	**37.7%**	**30.2%**	100.0%
		% within Transmission through kissing	77.3%	71.4%	76.2%	74.6%
	Female	Count	5	8	5	18
		Expected Count	5.6	7.1	5.3	18.0
		% within Gender	**27.8%**	**44.4%**	**27.8%**	100.0%
		% within Transmission through kissing	22.7%	28.6%	23.8%	25.4%
Total		Count	22	28	21	71
		Expected Count	22.0	28.0	21.0	71.0
		% within Gender	31.0%	39.4%	29.6%	100.0%
		% within Transmission through kissing	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through hugging

			Transmission through hugging			Total
			Yes	Not sure	No	
Gender	Male	Count	6	24	23	53
		Expected Count	6.0	25.4	21.6	53.0
		% within Gender	11.3%	45.3%	43.4%	100.0%
		% within Transmission through hugging	75.0%	70.6%	79.3%	74.6%
	Female	Count	2	10	6	18
		Expected Count	2.0	8.6	7.4	18.0

		% within Gender	11.1%	55.6%	33.3%	100.0%
		% within Transmission through hugging	25.0%	29.4%	20.7%	25.4%
Total		Count	8	34	29	71
		Expected Count	8.0	34.0	29.0	71.0
		% within Gender	11.3%	47.9%	40.8%	100.0%
		% within Transmission through hugging	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through handshaking

			Transmission through handshaking			Total
			Yes	Not sure	No	
Gender	Male	Count	4	25	24	53
		Expected Count	4.5	25.4	23.1	53.0
		% within Gender	7.5%	47.2%	45.3%	100.0%
		% within Transmission through handshaking	66.7%	73.5%	77.4%	74.6%
	Female	Count	2	9	7	18
		Expected Count	1.5	8.6	7.9	18.0
		% within Gender	11.1%	50.0%	38.9%	100.0%
		% within Transmission through handshaking	33.3%	26.5%	22.6%	25.4%
Total		Count	6	34	31	71
		Expected Count	6.0	34.0	31.0	71.0
		% within Gender	8.5%	47.9%	43.7%	100.0%
		% within Transmission through handshaking	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through sharing eating utensils

			Transmission through sharing eating utensils			Total
			Yes	Not sure	No	
Gender	Male	Count	11	23	19	53
		Expected Count	12.7	21.6	18.7	53.0

		% within Gender	20.8%	43.4%	35.8%	100.0%
		% within Transmission through sharing eating utensils	64.7%	79.3%	76.0%	74.6%
	Female	Count	6	6	6	18
		Expected Count	4.3	7.4	6.3	18.0
		% within Gender	33.3%	33.3%	33.3%	100.0%
		% within Transmission through sharing eating utensils	35.3%	20.7%	24.0%	25.4%
Total		Count	17	29	25	71
		Expected Count	17.0	29.0	25.0	71.0
		% within Gender	23.9%	40.8%	35.2%	100.0%
		% within Transmission through sharing eating utensils	100.0%	100.0%	100.0%	100.0%

Gender * Can Hepatitis C spread through blood?

			Can Hepatitis C spread through blood?			
			Yes	Not sure	No	Total
Gender	Male	Count	34	12	7	53
		Expected Count	36.6	9.7	6.7	53.0
		% within Gender	**64.2%**	**22.6%**	**13.2%**	100.0%
		% within Can Hepatitis C spread through blood?	69.4%	92.3%	77.8%	74.6%
	Female	Count	15	1	2	18
		Expected Count	12.4	3.3	2.3	18.0
		% within Gender	83.3%	5.6%	11.1%	100.0%
		% within Can Hepatitis C spread through blood?	30.6%	7.7%	22.2%	25.4%
Total		Count	49	13	9	71
		Expected Count	49.0	13.0	9.0	71.0
		% within Gender	**69.0%**	**18.3%**	**12.7%**	100.0%
		% within Can Hepatitis C spread through blood?	100.0%	100.0%	100.0%	100.0%

Gender * Can Hepatitis C spread through water?

			Can Hepatitis C spread through water?			
			Yes	Not sure	No	Total
Gender	Male	Count	24	15	14	53
		Expected Count	22.4	16.4	14.2	53.0
		% within Gender	45.3%	28.3%	26.4%	100.0%
		% within Can Hepatitis C spread through water?	80.0%	68.2%	73.7%	74.6%
	Female	Count	6	7	5	18
		Expected Count	7.6	5.6	4.8	18.0
		% within Gender	33.3%	38.9%	27.8%	100.0%
		% within Can Hepatitis C spread through water?	20.0%	31.8%	26.3%	25.4%
Total		Count	30	22	19	71
		Expected Count	30.0	22.0	19.0	71.0
		% within Gender	42.3%	31.0%	26.8%	100.0%
		% within Can Hepatitis C spread through water?	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.949(a)	2	.622
Likelihood Ratio	.950	2	.622
Linear-by-Linear Association	.352	1	.553
N of Valid Cases	71		

a 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.82.

Gender * Can Hepatitis C spread through air?

			Can Hepatitis C spread through air?			
			Yes	Not sure	No	Total
Gender	Male	Count	4	23	26	53
		Expected Count	4.5	25.4	23.1	53.0
		% within Gender	7.5%	43.4%	49.1%	100.0%
		% within Can Hepatitis C spread through air?	66.7%	67.6%	83.9%	74.6%

	Female	Count	2	11	5	18
		Expected Count	1.5	8.6	7.9	18.0
		% within Gender	11.1%	61.1%	27.8%	100.0%
		% within Can Hepatitis C spread through air?	33.3%	32.4%	16.1%	25.4%
Total		Count	6	34	31	71
		Expected Count	6.0	34.0	31.0	71.0
		% within Gender	8.5%	47.9%	43.7%	100.0%
		% within Can Hepatitis C spread through air?	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.476(a)	2	.290
Likelihood Ratio	2.560	2	.278
Linear-by-Linear Association	2.059	1	.151
N of Valid Cases	71		

a 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.52.

Gender * Transmission through contaminated needles

			Transmission through contaminated needles			
			Yes	Not sure	No	Total
Gender	Male	Count	39	9	5	53
		Expected Count	39.6	9.0	4.5	53.0
		% within Gender	**73.6%**	**17.0%**	**9.4%**	100.0%
		% within Transmission through contaminated needles	73.6%	75.0%	83.3%	74.6%
	Female	Count	14	3	1	18
		Expected Count	13.4	3.0	1.5	18.0
		% within Gender	**77.8%**	**16.7%**	**5.6%**	100.0%
		% within Transmission through contaminated needles	26.4%	25.0%	16.7%	25.4%
Total		Count	53	12	6	71
		Expected Count	53.0	12.0	6.0	71.0
		% within Gender	74.6%	16.9%	8.5%	100.0%

	% within Transmission through contaminated needles	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.272(a)	2	.873
Likelihood Ratio	.294	2	.863
Linear-by-Linear Association	.220	1	.639
N of Valid Cases	71		

a 3 cells (50.0%) have expected count less than 5. The minimum expected count is 1.52.

Gender * Transmission through contaminated shaving blades

			Transmission through contaminated shaving blades			
			Yes	Not sure	No	Total
Gender	Male	Count	32	13	8	53
		Expected Count	31.4	13.4	8.2	53.0
		% within Gender	**60.4%**	**24.5%**	**15.1%**	100.0%
		% within Transmission through contaminated shaving blades	76.2%	72.2%	72.7%	74.6%
	Female	Count	10	5	3	18
		Expected Count	10.6	4.6	2.8	18.0
		% within Gender	**55.6%**	**27.8%**	**16.7%**	100.0%
		% within Transmission through contaminated shaving blades	23.8%	27.8%	27.3%	25.4%
Total		Count	42	18	11	71
		Expected Count	42.0	18.0	11.0	71.0
		% within Gender	59.2%	25.4%	15.5%	100.0%
		% within Transmission through contaminated shaving blades	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)

Pearson Chi-Square	.130(a)	2	.937
Likelihood Ratio	.129	2	.937
Linear-by-Linear Association	.097	1	.755
N of Valid Cases	71		

a 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.79.

Gender * Transmitted through sharing tooth brushes

			Transmitted through sharing tooth brushes			
			Yes	Not sure	No	Total
Gender	Male	Count	15	12	26	53
		Expected Count	17.2	13.4	22.4	53.0
		% within Gender	**28.3%**	**22.6%**	**49.1%**	100.0%
		% within Transmitted through sharing tooth brushes	65.2%	66.7%	86.7%	74.6%
	Female	Count	8	6	4	18
		Expected Count	5.8	4.6	7.6	18.0
		% within Gender	**44.4%**	**33.3%**	**22.2%**	100.0%
		% within Transmitted through sharing tooth brushes	34.8%	33.3%	13.3%	25.4%
Total		Count	23	18	30	71
		Expected Count	23.0	18.0	30.0	71.0
		% within Gender	32.4%	25.4%	42.3%	100.0%
		% within Transmitted through sharing tooth brushes	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through surgical instruments

			Transmission through surgical instruments			
			Yes	Not sure	No	Total
Gender	Male	Count	24	13	16	53
		Expected Count	22.4	13.4	17.2	53.0
		% within Gender	45.3%	24.5%	30.2%	100.0%

		% within Transmission through surgical instruments	80.0%	72.2%	69.6%	74.6%
	Female	Count	6	5	7	18
		Expected Count	7.6	4.6	5.8	18.0
		% within Gender	33.3%	27.8%	38.9%	100.0%
		% within Transmission through surgical instruments	20.0%	27.8%	30.4%	25.4%
Total		Count	30	18	23	71
		Expected Count	30.0	18.0	23.0	71.0
		% within Gender	42.3%	25.4%	32.4%	100.0%
		% within Transmission through surgical instruments	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through blood transfusion

			Transmission through blood transfusion			
			Yes	Not sure	No	Total
Gender	Male	Count	28	7	18	53
		Expected Count	27.6	7.5	17.9	53.0
		% within Gender	52.8%	13.2%	34.0%	100.0%
		% within Transmission through blood transfusion	75.7%	70.0%	75.0%	74.6%
	Female	Count	9	3	6	18
		Expected Count	9.4	2.5	6.1	18.0
		% within Gender	50.0%	16.7%	33.3%	100.0%
		% within Transmission through blood transfusion	24.3%	30.0%	25.0%	25.4%
Total		Count	37	10	24	71
		Expected Count	37.0	10.0	24.0	71.0
		% within Gender	52.1%	14.1%	33.8%	100.0%
		% within Transmission through blood transfusion	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through unprotected sex

			Transmission through unprotected sex			
			Yes	Not sure	No	Total
Gender	Male	Count	13	16	24	53
		Expected Count	15.7	16.4	20.9	53.0
		% within Gender	**24.5%**	**30.2%**	**45.3%**	100.0%
		% within Transmission through unprotected sex	61.9%	72.7%	85.7%	74.6%
	Female	Count	8	6	4	18
		Expected Count	5.3	5.6	7.1	18.0
		% within Gender	**44.4%**	**33.3%**	**22.2%**	100.0%
		% within Transmission through unprotected sex	38.1%	27.3%	14.3%	25.4%
Total		Count	21	22	28	71
		Expected Count	21.0	22.0	28.0	71.0
		% within Gender	29.6%	31.0%	39.4%	100.0%
		% within Transmission through unprotected sex	100.0%	100.0%	100.0%	100.0%

Gender * Transmission through spoons and filters

Crosstab

			Transmission through spoons and filters			
			Yes	Not sure	No	Total
Gender	Male	Count	8	20	25	53
		Expected Count	10.5	20.2	22.4	53.0
		% within Gender	**15.1%**	**37.7%**	**47.2%**	100.0%
		% within Transmission through spoons and filters	57.1%	74.1%	83.3%	74.6%
	Female	Count	6	7	5	18
		Expected Count	3.5	6.8	7.6	18.0
		% within Gender	**33.3%**	**38.9%**	**27.8%**	100.0%

		% within Transmission through spoons and filters	42.9%	25.9%	16.7%	25.4%
Total		Count	14	27	30	71
		Expected Count	14.0	27.0	30.0	71.0
		% within Gender	19.7%	38.0%	42.3%	100.0%
		% within Transmission through spoons and filters	100.0%	100.0%	100.0%	100.0%

Gender * Vertical transmission

			Vertical transmission			
			Yes	Not Sure	No	Total
Gender	Male	Count	12	31	10	53
		Expected Count	13.4	32.1	7.5	53.0
		% within Gender	**22.6%**	**58.5%**	**18.9%**	100.0%
		% within Vertical transmission	66.7%	72.1%	100.0%	74.6%
	Female	Count	6	12	0	18
		Expected Count	4.6	10.9	2.5	18.0
		% within Gender	**33.3%**	**66.7%**	**.0%**	100.0%
		% within Vertical transmission	33.3%	27.9%	.0%	25.4%
Total		Count	18	43	10	71
		Expected Count	18.0	43.0	10.0	71.0
		% within Gender	25.4%	60.6%	14.1%	100.0%
		% within Vertical transmission	100.0%	100.0%	100.0%	100.0%

Gender* has hep c got a vaccine

			Has Hepatitis C got a vaccine?			
			Yes	Not Sure	No	Total
Gender	Male	Count	24	23	6	53
		Expected Count	23.9	23.9	5.2	53.0

		% within Gender	45.3%	43.4%	11.3%	100.0%
		% within Has Hepatitis C got a vaccine?	75.0%	71.9%	85.7%	74.6%
	Female	Count	8	9	1	18
		Expected Count	8.1	8.1	1.8	18.0
		% within Gender	44.4%	50.0%	5.6%	100.0%
		% within Has Hepatitis C got a vaccine?	25.0%	28.1%	14.3%	25.4%
Total		Count	32	32	7	71
		Expected Count	32.0	32.0	7.0	71.0
		% within Gender	45.1%	45.1%	9.9%	100.0%
		% within Has Hepatitis C got a vaccine?	100.0%	100.0%	100.0%	100.0%

Gender * Is Hepatitis C more prevalent in the world or HIV/AIDS

			Is Hepatitis C more prevalent in the world or HIV/AIDS			
			AIDS	Not sure	Hepatitis C	Total
Gender	Male	Count	34	3	16	53
		Expected Count	35.1	2.2	15.7	53.0
		% within Gender	**64.2%**	**5.7%**	**30.2%**	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	72.3%	100.0%	76.2%	74.6%
	Female	Count	13	0	5	18
		Expected Count	11.9	.8	5.3	18.0
		% within Gender	**72.2%**	**.0%**	**27.8%**	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	27.7%	.0%	23.8%	25.4%
Total		Count	47	3	21	71
		Expected Count	47.0	3.0	21.0	71.0
		% within Gender	66.2%	4.2%	29.6%	100.0%
		% within Is Hepatitis C more prevalent in the world or	100.0%	100.0%	100.0%	100.0%

	HIV/AIDS				

1.2.3. Cross tabulations of Ethnic groups with responses

EthnicOrigin * Do you know about the common symptoms faced after exposure to Hepatitis C?

Crosstab

			Do you know about the common symptoms faced after exposure to Hepatitis C?			
			Yes	Not Sure	No	Total
EthnicOrigin	Pakistan	Count	7	10	2	19
		Expected Count	7.5	10.4	1.1	19.0
		% within EthnicOrigin	**36.8%**	**52.6%**	**10.5%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	25.0%	25.6%	50.0%	26.8%
	Not mentioned	Count	0	3	0	3
		Expected Count	1.2	1.6	.2	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	.0%	7.7%	.0%	4.2%
	India	Count	16	14	2	32
		Expected Count	12.6	17.6	1.8	32.0
		% within EthnicOrigin	**50.0%**	**43.8%**	**6.3%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	57.1%	35.9%	50.0%	45.1%
	Sri-Lanka	Count	1	7	0	8
		Expected Count	3.2	4.4	.5	8.0
		% within EthnicOrigin	**12.5%**	**87.5%**	**.0%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	3.6%	17.9%	.0%	11.3%
	Bangladesh	Count	4	5	0	9
		Expected Count	3.5	4.9	.5	9.0
		% within EthnicOrigin	**44.4%**	**55.6%**	**.0%**	100.0%

		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	14.3%	12.8%	.0%	12.7%
Total		Count	28	39	4	71
		Expected Count	28.0	39.0	4.0	71.0
		% within EthnicOrigin	39.4%	54.9%	5.6%	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can jaundice be symptom of Hepatitis C?

Crosstab

			Can jaundice be symptom of Hepatitis C?			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	13	4	1	18
		Expected Count	11.8	4.6	1.5	18.0
		% within EthnicOrigin	**72.2%**	**22.2%**	**5.6%**	100.0%
		% within Can jaundice be symptom of Hepatitis C?	28.3%	22.2%	16.7%	25.7%
	Not mentioned	Count	0	3	0	3
		Expected Count	2.0	.8	.3	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Can jaundice be symptom of Hepatitis C?	.0%	16.7%	.0%	4.3%
	India	Count	21	8	3	32
		Expected Count	21.0	8.2	2.7	32.0
		% within EthnicOrigin	**65.6%**	**25.0%**	**9.4%**	100.0%
		% within Can jaundice be symptom of Hepatitis C?	45.7%	44.4%	50.0%	45.7%
	Sri-Lanka	Count	6	1	1	8
		Expected Count	5.3	2.1	.7	8.0
		% within EthnicOrigin	**75.0%**	**12.5%**	**12.5%**	100.0%
		% within Can jaundice be symptom of Hepatitis C?	13.0%	5.6%	16.7%	11.4%
	Bangladesh	Count	6	2	1	9
		Expected Count	5.9	2.3	.8	9.0
		% within EthnicOrigin	**66.7%**	**22.2%**	**11.1%**	100.0%

		% within Can jaundice be symptom of Hepatitis C?	13.0%	11.1%	16.7%	12.9%
Total		Count	46	18	6	70
		Expected Count	46.0	18.0	6.0	70.0
		% within EthnicOrigin	65.7%	25.7%	8.6%	100.0%
		% within Can jaundice be symptom of Hepatitis C?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can flu like symptoms be felt after exposure to Hepatitis?

Crosstab

			Can flu like symptoms be felt after exposure to Hepatitis?			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	6	7	5	18
		Expected Count	5.7	8.0	4.4	18.0
		% within EthnicOrigin	**33.3%**	**38.9%**	**27.8%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	27.3%	22.6%	29.4%	25.7%
	Not mentioned	Count	0	3	0	3
		Expected Count	.9	1.3	.7	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	.0%	9.7%	.0%	4.3%
	India	Count	10	14	8	32
		Expected Count	10.1	14.2	7.8	32.0
		% within EthnicOrigin	**31.3%**	**43.8%**	**25.0%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	45.5%	45.2%	47.1%	45.7%
	Sri-Lanka	Count	3	4	1	8
		Expected Count	2.5	3.5	1.9	8.0
		% within EthnicOrigin	**37.5%**	**50.0%**	**12.5%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	13.6%	12.9%	5.9%	11.4%
	Bangladesh	Count	3	3	3	9
		Expected Count	2.8	4.0	2.2	9.0
		% within EthnicOrigin	**33.3%**	**33.3%**	**33.3%**	100.0%

		% within Can flu like symptoms be felt after exposure to Hepatitis?	13.6%	9.7%	17.6%	12.9%
Total		Count	22	31	17	70
		Expected Count	22.0	31.0	17.0	70.0
		% within EthnicOrigin	31.4%	44.3%	24.3%	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can abdominal pain be felt after exposure to Hepatitis C?

Crosstab

			Can abdominal pain be felt after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	6	6	6	18
		Expected Count	6.7	6.7	4.6	18.0
		% within EthnicOrigin	**33.3%**	**33.3%**	**33.3%**	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	23.1%	23.1%	33.3%	25.7%
	Not mentioned	Count	0	3	0	3
		Expected Count	1.1	1.1	.8	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	.0%	11.5%	.0%	4.3%
	India	Count	14	11	7	32
		Expected Count	11.9	11.9	8.2	32.0
		% within EthnicOrigin	**43.8%**	**34.4%**	**21.9%**	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	53.8%	42.3%	38.9%	45.7%
	Sri-Lanka	Count	3	3	2	8
		Expected Count	3.0	3.0	2.1	8.0
		% within EthnicOrigin	**37.5%**	**37.5%**	**25.0%**	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	11.5%	11.5%	11.1%	11.4%
	Bangladesh	Count	3	3	3	9
		Expected Count	3.3	3.3	2.3	9.0
		% within EthnicOrigin	**33.3%**	**33.3%**	**33.3%**	100.0%

		% within Can abdominal pain be felt after exposure to Hepatitis C?	11.5%	11.5%	16.7%	12.9%
Total		Count	26	26	18	70
		Expected Count	26.0	26.0	18.0	70.0
		% within EthnicOrigin	37.1%	37.1%	25.7%	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can weight loss be faced after exposure to Hepatitis C?

Crosstab

			Can weight loss be faced after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	6	6	6	18
		Expected Count	5.4	6.9	5.7	18.0
		% within EthnicOrigin	**33.3%**	**33.3%**	**33.3%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	28.6%	22.2%	27.3%	25.7%
	Not mentioned	Count	0	3	0	3
		Expected Count	.9	1.2	.9	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	.0%	11.1%	.0%	4.3%
	India	Count	9	12	11	32
		Expected Count	9.6	12.3	10.1	32.0
		% within EthnicOrigin	**28.1%**	**37.5%**	**34.4%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	42.9%	44.4%	50.0%	45.7%
	Sri-Lanka	Count	3	3	2	8
		Expected Count	2.4	3.1	2.5	8.0
		% within EthnicOrigin	**37.5%**	**37.5%**	**25.0%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	14.3%	11.1%	9.1%	11.4%
	Bangladesh	Count	3	3	3	9
		Expected Count	2.7	3.5	2.8	9.0
		% within	**33.3%**	**33.3%**	**33.3%**	100.0%

		EthnicOrigin				
		% within Can weight loss be faced after exposure to Hepatitis C?	14.3%	11.1%	13.6%	12.9%
Total		Count	21	27	22	70
		Expected Count	21.0	27.0	22.0	70.0
		% within EthnicOrigin	30.0%	38.6%	31.4%	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can Generalized weakness be felt after exposure to Hepatitis C?

Crosstab

			Can Generalized weakness be felt after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	4	9	5	18
		Expected Count	4.4	8.0	5.7	18.0
		% within EthnicOrigin	**22.2%**	**50.0%**	**27.8%**	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	23.5%	29.0%	22.7%	25.7%
	Not mentioned	Count	0	3	0	3
		Expected Count	.7	1.3	.9	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	.0%	9.7%	.0%	4.3%
	India	Count	8	13	11	32
		Expected Count	7.8	14.2	10.1	32.0
		% within EthnicOrigin	**25.0%**	**40.6%**	**34.4%**	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	47.1%	41.9%	50.0%	45.7%
	Sri-Lanka	Count	2	4	2	8
		Expected Count	1.9	3.5	2.5	8.0
		% within EthnicOrigin	**25.0%**	**50.0%**	**25.0%**	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	11.8%	12.9%	9.1%	11.4%

	Bangladesh	Count	3	2	4	9
		Expected Count				
		% within EthnicOrigin				
		% within Can Generalized weakness be felt after exposure to Hepatitis C?				
		Count				
		Expected Count				
		% within EthnicOrigin				
		% within Can Generalized weakness be felt after exposure to Hepatitis C?				

EthnicOrigin * Q2f

Crosstab

			Q2f		
				diarrhoea	
EthnicOrigin	Pakistan	Count	19	0	19
		Expected Count	18.7	.3	19.0
		% within EthnicOrigin	100.0%	.0%	100.0%
		% within Q2f	27.1%	.0%	26.8%
	Not mentioned	Count	3	0	3
		Expected Count	3.0	.0	3.0
		% within EthnicOrigin	100.0%	.0%	100.0%
		% within Q2f	4.3%	.0%	4.2%
	India	Count	31	1	32
		Expected Count	31.5	.5	32.0
		% within EthnicOrigin	96.9%	3.1%	100.0%
		% within Q2f	44.3%	100.0%	45.1%
	Sri-Lanka	Count	8	0	8
		Expected Count	7.9	.1	8.0
		% within EthnicOrigin	100.0%	.0%	100.0%
		% within Q2f	11.4%	.0%	11.3%
	Bangladesh	Count	9	0	9
		Expected Count	8.9	.1	9.0
		% within EthnicOrigin	100.0%	.0%	100.0%
		% within Q2f	12.9%	.0%	12.7%
Total		Count	70	1	71
		Expected Count	70.0	1.0	71.0
		% within EthnicOrigin	98.6%	1.4%	100.0%
		% within Q2f	100.0%	100.0%	100.0%

EthnicOrigin * Is Hepatitis C a curable infection?

Crosstab

			Is Hepatitis C a curable infection?			
			Yes	Not Sure	No	Total
EthnicOrigin	Pakistan	Count	8	9	2	19
		Expected Count	6.4	9.6	2.9	19.0
		% within EthnicOrigin	42.1%	47.4%	10.5%	100.0%
		% within Is Hepatitis C a curable infection?	33.3%	25.0%	18.2%	26.8%
	Not mentioned	Count	0	3	0	3
		Expected Count	1.0	1.5	.5	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Is Hepatitis C a curable infection?	.0%	8.3%	.0%	4.2%
	India	Count	14	13	5	32
		Expected Count	10.8	16.2	5.0	32.0
		% within EthnicOrigin	43.8%	40.6%	15.6%	100.0%
		% within Is Hepatitis C a curable infection?	58.3%	36.1%	45.5%	45.1%
	Sri-Lanka	Count	1	5	2	8
		Expected Count	2.7	4.1	1.2	8.0
		% within EthnicOrigin	12.5%	62.5%	25.0%	100.0%
		% within Is Hepatitis C a curable infection?	4.2%	13.9%	18.2%	11.3%
	Bangladesh	Count	1	6	2	9
		Expected Count	3.0	4.6	1.4	9.0
		% within EthnicOrigin	11.1%	66.7%	22.2%	100.0%
		% within Is Hepatitis C a curable infection?	4.2%	16.7%	18.2%	12.7%
Total		Count	24	36	11	71
		Expected Count	24.0	36.0	11.0	71.0
		% within EthnicOrigin	33.8%	50.7%	15.5%	100.0%
		% within Is Hepatitis C a curable infection?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * How does Hepatitis C spread?

Crosstab

		How does Hepatitis C spread?			
		Yes	Not Sure	No	Total

EthnicOrigin	Pakistan	Count	11	8	0	19
		Expected Count	7.2	10.4	1.3	19.0
		% within EthnicOrigin	**57.9%**	**42.1%**	**.0%**	**100.0%**
		% within How does Hepatitis C spread?	40.7%	20.5%	.0%	26.8%
	Not mentioned	Count	0	3	0	3
		Expected Count	1.1	1.6	.2	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within How does Hepatitis C spread?	.0%	7.7%	.0%	4.2%
	India	Count	12	16	4	32
		Expected Count	12.2	17.6	2.3	32.0
		% within EthnicOrigin	**37.5%**	**50.0%**	**12.5%**	**100.0%**
		% within How does Hepatitis C spread?	44.4%	41.0%	80.0%	45.1%
	Sri-Lanka	Count	2	5	1	8
		Expected Count	3.0	4.4	.6	8.0
		% within EthnicOrigin	**25.0%**	**62.5%**	**12.5%**	**100.0%**
		% within How does Hepatitis C spread?	7.4%	12.8%	20.0%	11.3%
	Bangladesh	Count	2	7	0	9
		Expected Count	3.4	4.9	.6	9.0
		% within EthnicOrigin	**22.2%**	**77.8%**	**.0%**	**100.0%**
		% within How does Hepatitis C spread?	7.4%	17.9%	.0%	12.7%
Total		Count	27	39	5	71
		Expected Count	27.0	39.0	5.0	71.0
		% within EthnicOrigin	38.0%	54.9%	7.0%	100.0%
		% within How does Hepatitis C spread?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission by close contacts

Crosstab

			Transmission by close contacts			Total
			Yes	Not Sure	No	
EthnicOrigin	Pakistan	Count	9	6	4	19
		Expected Count	6.7	7.8	4.5	19.0
		% within EthnicOrigin	**47.4%**	**31.6%**	**21.1%**	100.0%
		% within Transmission by close contacts	36.0%	20.7%	23.5%	26.8%
	Not mentioned	Count	1	1	1	3
		Expected Count	1.1	1.2	.7	3.0
		% within EthnicOrigin	33.3%	33.3%	33.3%	100.0%

		% within Transmission by close contacts	4.0%	3.4%	5.9%	4.2%
	India	Count	9	12	11	32
		Expected Count	11.3	13.1	7.7	32.0
		% within EthnicOrigin	**28.1%**	**37.5%**	**34.4%**	100.0%
		% within Transmission by close contacts	36.0%	41.4%	64.7%	45.1%
	Sri-Lanka	Count	3	5	0	8
		Expected Count	2.8	3.3	1.9	8.0
		% within EthnicOrigin	**37.5%**	**62.5%**	**.0%**	100.0%
		% within Transmission by close contacts	12.0%	17.2%	.0%	11.3%
	Bangladesh	Count	3	5	1	9
		Expected Count	3.2	3.7	2.2	9.0
		% within EthnicOrigin	**33.3%**	**55.6%**	**11.1%**	100.0%
		% within Transmission by close contacts	12.0%	17.2%	5.9%	12.7%
Total		Count	25	29	17	71
		Expected Count	25.0	29.0	17.0	71.0
		% within EthnicOrigin	35.2%	40.8%	23.9%	100.0%
		% within Transmission by close contacts	100.0%	100.0%	100.0%	100.0%

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EthnicOrigin * Transmission through kissing

Crosstab

			Transmission through kissing			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	9	5	5	19
		Expected Count	5.9	7.5	5.6	19.0
		% within EthnicOrigin	**47.4%**	**26.3%**	**26.3%**	100.0%
		% within Transmission through kissing	40.9%	17.9%	23.8%	26.8%
	Not mentioned	Count	0	0	3	3
		Expected Count	.9	1.2	.9	3.0
		% within EthnicOrigin	.0%	.0%	100.0%	100.0%
		% within Transmission through kissing	.0%	.0%	14.3%	4.2%
	India	Count	10	11	11	32
		Expected Count	9.9	12.6	9.5	32.0
		% within EthnicOrigin	**31.3%**	**34.4%**	**34.4%**	100.0%
		% within Transmission	45.5%	39.3%	52.4%	45.1%

		through kissing				
	Sri-Lanka	Count	0	7	1	8
		Expected Count	2.5	3.2	2.4	8.0
		% within EthnicOrigin	**.0%**	**87.5%**	**12.5%**	100.0%
		% within Transmission through kissing	.0%	25.0%	4.8%	11.3%
	Bangladesh	Count	3	5	1	9
		Expected Count	2.8	3.5	2.7	9.0
		% within EthnicOrigin	**33.3%**	**55.6%**	**11.1%**	100.0%
		% within Transmission through kissing	13.6%	17.9%	4.8%	12.7%
Total		Count	22	28	21	71
		Expected Count	22.0	28.0	21.0	71.0
		% within EthnicOrigin	31.0%	39.4%	29.6%	100.0%
		% within Transmission through kissing	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through hugging

Crosstab

			Transmission through hugging			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	1	8	10	19
		Expected Count	2.1	9.1	7.8	19.0
		% within EthnicOrigin	5.3%	42.1%	52.6%	100.0%
		% within Transmission through hugging	12.5%	23.5%	34.5%	26.8%
	Not mentioned	Count	0	0	3	3
		Expected Count	.3	1.4	1.2	3.0
		% within EthnicOrigin	.0%	.0%	100.0%	100.0%
		% within Transmission through hugging	.0%	.0%	10.3%	4.2%
	India	Count	6	13	13	32
		Expected Count	3.6	15.3	13.1	32.0
		% within EthnicOrigin	18.8%	40.6%	40.6%	100.0%
		% within Transmission through hugging	75.0%	38.2%	44.8%	45.1%
	Sri-Lanka	Count	0	7	1	8
		Expected Count	.9	3.8	3.3	8.0
		% within EthnicOrigin	.0%	87.5%	12.5%	100.0%
		% within Transmission through hugging	.0%	20.6%	3.4%	11.3%
	Bangladesh	Count	1	6	2	9
		Expected Count	1.0	4.3	3.7	9.0

		% within EthnicOrigin	11.1%	66.7%	22.2%	100.0%
		% within Transmission through hugging	12.5%	17.6%	6.9%	12.7%
Total		Count	8	34	29	71
		Expected Count	8.0	34.0	29.0	71.0
		% within EthnicOrigin	11.3%	47.9%	40.8%	100.0%
		% within Transmission through hugging	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through handshaking

Crosstab

			Transmission through handshaking			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	2	7	10	19
		Expected Count	1.6	9.1	8.3	19.0
		% within EthnicOrigin	10.5%	36.8%	52.6%	100.0%
		% within Transmission through handshaking	33.3%	20.6%	32.3%	26.8%
	Not mentioned	Count	0	0	3	3
		Expected Count	.3	1.4	1.3	3.0
		% within EthnicOrigin	.0%	.0%	100.0%	100.0%
		% within Transmission through handshaking	.0%	.0%	9.7%	4.2%
	India	Count	2	15	15	32
		Expected Count	2.7	15.3	14.0	32.0
		% within EthnicOrigin	6.3%	46.9%	46.9%	100.0%
		% within Transmission through handshaking	33.3%	44.1%	48.4%	45.1%
	Sri-Lanka	Count	0	7	1	8
		Expected Count	.7	3.8	3.5	8.0
		% within EthnicOrigin	.0%	87.5%	12.5%	100.0%
		% within Transmission through handshaking	.0%	20.6%	3.2%	11.3%
	Bangladesh	Count	2	5	2	9
		Expected Count	.8	4.3	3.9	9.0
		% within EthnicOrigin	22.2%	55.6%	22.2%	100.0%
		% within Transmission through handshaking	33.3%	14.7%	6.5%	12.7%
Total		Count	6	34	31	71
		Expected Count	6.0	34.0	31.0	71.0

		% within EthnicOrigin	8.5%	47.9%	43.7%	100.0%
		% within Transmission through handshaking	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through sharing eating utensils

Crosstab

			Transmission through sharing eating utensils			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	5	6	8	19
		Expected Count	4.5	7.8	6.7	19.0
		% within EthnicOrigin	26.3%	31.6%	42.1%	100.0%
		% within Transmission through sharing eating utensils	29.4%	20.7%	32.0%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	.7	1.2	1.1	3.0
		% within EthnicOrigin	33.3%	.0%	66.7%	100.0%
		% within Transmission through sharing eating utensils	5.9%	.0%	8.0%	4.2%
	India	Count	4	15	13	32
		Expected Count	7.7	13.1	11.3	32.0
		% within EthnicOrigin	12.5%	46.9%	40.6%	100.0%
		% within Transmission through sharing eating utensils	23.5%	51.7%	52.0%	45.1%
	Sri-Lanka	Count	3	4	1	8
		Expected Count	1.9	3.3	2.8	8.0
		% within EthnicOrigin	37.5%	50.0%	12.5%	100.0%
		% within Transmission through sharing eating utensils	17.6%	13.8%	4.0%	11.3%
	Bangladesh	Count	4	4	1	9
		Expected Count	2.2	3.7	3.2	9.0
		% within EthnicOrigin	44.4%	44.4%	11.1%	100.0%
		% within Transmission through sharing eating utensils	23.5%	13.8%	4.0%	12.7%
Total		Count	17	29	25	71
		Expected Count	17.0	29.0	25.0	71.0
		% within EthnicOrigin	23.9%	40.8%	35.2%	100.0%

	% within Transmission through sharing eating utensils	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can Hepatitis C spread through blood?

Crosstab

			Can Hepatitis C spread through blood?			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	15	3	1	19
		Expected Count	13.1	3.5	2.4	19.0
		% within EthnicOrigin	**78.9%**	**15.8%**	**5.3%**	100.0%
		% within Can Hepatitis C spread through blood?	30.6%	23.1%	11.1%	26.8%
	Not mentioned	Count	1	1	1	3
		Expected Count	2.1	.5	.4	3.0
		% within EthnicOrigin	33.3%	33.3%	33.3%	100.0%
		% within Can Hepatitis C spread through blood?	2.0%	7.7%	11.1%	4.2%
	India	Count	23	3	6	32
		Expected Count	22.1	5.9	4.1	32.0
		% within EthnicOrigin	**71.9%**	**9.4%**	**18.8%**	100.0%
		% within Can Hepatitis C spread through blood?	46.9%	23.1%	66.7%	45.1%
	Sri-Lanka	Count	4	4	0	8
		Expected Count	5.5	1.5	1.0	8.0
		% within EthnicOrigin	**50.0%**	**50.0%**	**.0%**	**100.0%**
		% within Can Hepatitis C spread through blood?	8.2%	30.8%	.0%	11.3%
	Bangladesh	Count	6	2	1	9
		Expected Count	6.2	1.6	1.1	9.0
		% within EthnicOrigin	**66.7%**	**22.2%**	**11.1%**	100.0%
		% within Can Hepatitis C spread through blood?	12.2%	15.4%	11.1%	12.7%
Total		Count	49	13	9	71
		Expected Count	49.0	13.0	9.0	71.0
		% within EthnicOrigin	69.0%	18.3%	12.7%	100.0%
		% within Can Hepatitis C spread through blood?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can Hepatitis C spread through water?

Crosstab

			Can Hepatitis C spread through water?			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	9	5	5	19
		Expected Count	8.0	5.9	5.1	19.0
		% within EthnicOrigin	**47.4%**	**26.3%**	**26.3%**	100.0%
		% within Can Hepatitis C spread through water?	30.0%	22.7%	26.3%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	1.3	.9	.8	3.0
		% within EthnicOrigin	**33.3%**	**.0%**	**66.7%**	100.0%
		% within Can Hepatitis C spread through water?	3.3%	.0%	10.5%	4.2%
	India	Count	13	9	10	32
		Expected Count	13.5	9.9	8.6	32.0
		% within EthnicOrigin	**40.6%**	**28.1%**	**31.3%**	100.0%
		% within Can Hepatitis C spread through water?	43.3%	40.9%	52.6%	45.1%
	Sri-Lanka	Count	2	6	0	8
		Expected Count	3.4	2.5	2.1	8.0
		% within EthnicOrigin	**25.0%**	**75.0%**	**.0%**	**100.0%**
		% within Can Hepatitis C spread through water?	6.7%	27.3%	.0%	11.3%
	Bangladesh	Count	5	2	2	9
		Expected Count	3.8	2.8	2.4	9.0
		% within EthnicOrigin	**55.6%**	**22.2%**	**22.2%**	100.0%
		% within Can Hepatitis C spread through water?	16.7%	9.1%	10.5%	12.7%
Total		Count	30	22	19	71
		Expected Count	30.0	22.0	19.0	71.0
		% within EthnicOrigin	42.3%	31.0%	26.8%	100.0%
		% within Can Hepatitis C spread through water?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Can Hepatitis C spread through air?

Crosstab

			Can Hepatitis C spread through air?			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	1	11	7	19
		Expected Count	1.6	9.1	8.3	19.0

		% within EthnicOrigin	**5.3%**	**57.9%**	**36.8%**	100.0%
		% within Can Hepatitis C spread through air?				
	Not mentioned	Count				
		Expected Count				
		% within EthnicOrigin				
		% within Can Hepatitis C spread through air?				
	India	Count				
		Expected Count				
		% within EthnicOrigin				
		% within Can Hepatitis C spread through air?				
	Sri-Lanka	Count				
		Expected Count				
		% within EthnicOrigin				
		% within Can Hepatitis C spread through air?				
	Bangladesh	Count				
		Expected Count				
		% within EthnicOrigin				
		% within Can Hepatitis C spread through air?				
		Count				
		Expected Count				
		% within EthnicOrigin				
		% within Can Hepatitis C spread through air?				

EthnicOrigin * Q6d

Crosstab

			Q6d	
EthnicOrigin	Pakistan	Count	19	19
		Expected Count	19.0	19.0
		% within EthnicOrigin	100.0%	100.0%
		% within Q6d	26.8%	26.8%
	Not mentioned	Count	3	3
		Expected Count	3.0	3.0
		% within EthnicOrigin	100.0%	100.0%
		% within Q6d	4.2%	4.2%

	India	Count	32	32
		Expected Count	32.0	32.0
		% within EthnicOrigin	100.0%	100.0%
		% within Q6d	45.1%	45.1%
	Sri-Lanka	Count	8	8
		Expected Count	8.0	8.0
		% within EthnicOrigin	100.0%	100.0%
		% within Q6d	11.3%	11.3%
	Bangladesh	Count	9	9
		Expected Count	9.0	9.0
		% within EthnicOrigin	100.0%	100.0%
		% within Q6d	12.7%	12.7%
Total		Count	71	71
		Expected Count	71.0	71.0
		% within EthnicOrigin	100.0%	100.0%
		% within Q6d	100.0%	100.0%

EthnicOrigin * Transmission through contaminated needles

Crosstab

			Transmission through contaminated needles			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	17	1	1	19
		Expected Count	14.2	3.2	1.6	19.0
		% within EthnicOrigin	**89.5%**	**5.3%**	**5.3%**	100.0%
		% within Transmission through contaminated needles	32.1%	8.3%	16.7%	26.8%
	Not mentioned	Count	2	0	1	3
		Expected Count	2.2	.5	.3	3.0
		% within EthnicOrigin	**66.7%**	**.0%**	**33.3%**	100.0%
		% within Transmission through contaminated needles	3.8%	.0%	16.7%	4.2%
	India	Count	26	4	2	32
		Expected Count	23.9	5.4	2.7	32.0
		% within EthnicOrigin	**81.3%**	**12.5%**	**6.3%**	100.0%
		% within Transmission through contaminated needles	49.1%	33.3%	33.3%	45.1%
	Sri-Lanka	Count	4	3	1	8

		Expected Count	6.0	1.4	.7	8.0
		% within EthnicOrigin	**50.0%**	**37.5%**	**12.5%**	100.0%
		% within Transmission through contaminated needles	7.5%	25.0%	16.7%	11.3%
	Bangladesh	Count	4	4	1	9
		Expected Count	6.7	1.5	.8	9.0
		% within EthnicOrigin	**44.4%**	**44.4%**	**11.1%**	100.0%
		% within Transmission through contaminated needles	7.5%	33.3%	16.7%	12.7%
Total		Count	53	12	6	71
		Expected Count	53.0	12.0	6.0	71.0
		% within EthnicOrigin	74.6%	16.9%	8.5%	100.0%
		% within Transmission through contaminated needles	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through contaminated shaving blades

Crosstab

			Transmission through contaminated shaving blades			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	10	4	5	19
		Expected Count	11.2	4.8	2.9	19.0
		% within EthnicOrigin	**52.6%**	**21.1%**	**26.3%**	100.0%
		% within Transmission through contaminated shaving blades	23.8%	22.2%	45.5%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	1.8	.8	.5	3.0
		% within EthnicOrigin	33.3%	.0%	66.7%	100.0%
		% within Transmission through contaminated shaving blades	2.4%	.0%	18.2%	4.2%
	India	Count	22	8	2	32
		Expected Count	18.9	8.1	5.0	32.0
		% within EthnicOrigin	**68.8%**	**25.0%**	**6.3%**	100.0%

		% within Transmission through contaminated shaving blades	52.4%	44.4%	18.2%	45.1%
	Sri-Lanka	Count	4	3	1	8
		Expected Count	4.7	2.0	1.2	8.0
		% within EthnicOrigin	**50.0%**	**37.5%**	**12.5%**	100.0%
		% within Transmission through contaminated shaving blades	9.5%	16.7%	9.1%	11.3%
	Bangladesh	Count	5	3	1	9
		Expected Count	5.3	2.3	1.4	9.0
		% within EthnicOrigin	**55.6%**	**33.3%**	**11.1%**	100.0%
		% within Transmission through contaminated shaving blades	11.9%	16.7%	9.1%	12.7%
Total		Count	42	18	11	71
		Expected Count	42.0	18.0	11.0	71.0
		% within EthnicOrigin	59.2%	25.4%	15.5%	100.0%
		% within Transmission through contaminated shaving blades	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmitted through sharing tooth brushes

Crosstab

			Transmitted through sharing tooth brushes			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	7	3	9	19
		Expected Count	6.2	4.8	8.0	19.0
		% within EthnicOrigin	**36.8%**	**15.8%**	**47.4%**	100.0%
		% within Transmitted through sharing tooth brushes	30.4%	16.7%	30.0%	26.8%
	Not mentioned	Count	0	0	3	3
		Expected Count	1.0	.8	1.3	3.0
		% within EthnicOrigin	.0%	.0%	100.0%	100.0%
		% within Transmitted through sharing tooth brushes	.0%	.0%	10.0%	4.2%
	India	Count	8	11	13	32
		Expected Count	10.4	8.1	13.5	32.0

		% within EthnicOrigin	**25.0%**	**34.4%**	**40.6%**	100.0%
		% within Transmitted through sharing tooth brushes	34.8%	61.1%	43.3%	45.1%
	Sri-Lanka	Count	3	2	3	8
		Expected Count	2.6	2.0	3.4	8.0
		% within EthnicOrigin	**37.5%**	**25.0%**	**37.5%**	100.0%
		% within Transmitted through sharing tooth brushes	13.0%	11.1%	10.0%	11.3%
	Bangladesh	Count	5	2	2	9
		Expected Count	2.9	2.3	3.8	9.0
		% within EthnicOrigin	**55.6%**	**22.2%**	**22.2%**	100.0%
		% within Transmitted through sharing tooth brushes	21.7%	11.1%	6.7%	12.7%
Total		Count	23	18	30	71
		Expected Count	23.0	18.0	30.0	71.0
		% within EthnicOrigin	32.4%	25.4%	42.3%	100.0%
		% within Transmitted through sharing tooth brushes	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through surgical instruments

Crosstab

			Transmission through surgical instruments			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	9	3	7	19
		Expected Count	8.0	4.8	6.2	19.0
		% within EthnicOrigin	47.4%	15.8%	36.8%	100.0%
		% within Transmission through surgical instruments	30.0%	16.7%	30.4%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	1.3	.8	1.0	3.0
		% within EthnicOrigin	33.3%	.0%	66.7%	100.0%
		% within Transmission through surgical instruments	3.3%	.0%	8.7%	4.2%
	India	Count	14	7	11	32
		Expected Count	13.5	8.1	10.4	32.0

		% within EthnicOrigin	43.8%	21.9%	34.4%	100.0%
		% within Transmission through surgical instruments	46.7%	38.9%	47.8%	45.1%
	Sri-Lanka	Count	2	4	2	8
		Expected Count	3.4	2.0	2.6	8.0
		% within EthnicOrigin	25.0%	50.0%	25.0%	100.0%
		% within Transmission through surgical instruments	6.7%	22.2%	8.7%	11.3%
	Bangladesh	Count	4	4	1	9
		Expected Count	3.8	2.3	2.9	9.0
		% within EthnicOrigin	44.4%	44.4%	11.1%	100.0%
		% within Transmission through surgical instruments	13.3%	22.2%	4.3%	12.7%
Total		Count	30	18	23	71
		Expected Count	30.0	18.0	23.0	71.0
		% within EthnicOrigin	42.3%	25.4%	32.4%	100.0%
		% within Transmission through surgical instruments	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through blood transfusion

Crosstab

			Transmission through blood transfusion			Total
			Yes	Not sure	No	
EthnicOrigin	Pakistan	Count	10	2	7	19
		Expected Count	9.9	2.7	6.4	19.0
		% within EthnicOrigin	52.6%	10.5%	36.8%	100.0%
		% within Transmission through blood transfusion	27.0%	20.0%	29.2%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	1.6	.4	1.0	3.0
		% within EthnicOrigin	33.3%	.0%	66.7%	100.0%
		% within Transmission through blood transfusion	2.7%	.0%	8.3%	4.2%
	India	Count	16	4	12	32
		Expected Count	16.7	4.5	10.8	32.0
		% within EthnicOrigin	50.0%	12.5%	37.5%	100.0%
		% within Transmission through blood	43.2%	40.0%	50.0%	45.1%

		transfusion				
	Sri-Lanka	Count	5	1	2	8
		Expected Count	4.2	1.1	2.7	8.0
		% within EthnicOrigin	62.5%	12.5%	25.0%	100.0%
		% within Transmission through blood transfusion	13.5%	10.0%	8.3%	11.3%
	Bangladesh	Count	5	3	1	9
		Expected Count	4.7	1.3	3.0	9.0
		% within EthnicOrigin	55.6%	33.3%	11.1%	100.0%
		% within Transmission through blood transfusion	13.5%	30.0%	4.2%	12.7%
Total		Count	37	10	24	71
		Expected Count	37.0	10.0	24.0	71.0
		% within EthnicOrigin	52.1%	14.1%	33.8%	100.0%
		% within Transmission through blood transfusion	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through unprotected sex

Crosstab

			Transmission through unprotected sex			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	5	3	11	19
		Expected Count	5.6	5.9	7.5	19.0
		% within EthnicOrigin	**26.3%**	**15.8%**	**57.9%**	100.0%
		% within Transmission through unprotected sex	23.8%	13.6%	39.3%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	.9	.9	1.2	3.0
		% within EthnicOrigin	33.3%	.0%	66.7%	100.0%
		% within Transmission through unprotected sex	4.8%	.0%	7.1%	4.2%
	India	Count	10	10	12	32
		Expected Count	9.5	9.9	12.6	32.0
		% within EthnicOrigin	**31.3%**	**31.3%**	**37.5%**	100.0%
		% within Transmission through unprotected sex	47.6%	45.5%	42.9%	45.1%
	Sri-Lanka	Count	2	4	2	8
		Expected Count	2.4	2.5	3.2	8.0

		% within EthnicOrigin	**25.0%**	**50.0%**	**25.0%**	100.0%
		% within Transmission through unprotected sex	9.5%	18.2%	7.1%	11.3%
	Bangladesh	Count	3	5	1	9
		Expected Count	2.7	2.8	3.5	9.0
		% within EthnicOrigin	**33.3%**	**55.6%**	**11.1%**	100.0%
		% within Transmission through unprotected sex	14.3%	22.7%	3.6%	12.7%
Total		Count	21	22	28	71
		Expected Count	21.0	22.0	28.0	71.0
		% within EthnicOrigin	29.6%	31.0%	39.4%	100.0%
		% within Transmission through unprotected sex	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Transmission through spoons and filters

Crosstab

			Transmission through spoons and filters			
			Yes	Not sure	No	Total
EthnicOrigin	Pakistan	Count	5	4	10	19
		Expected Count	3.7	7.2	8.0	19.0
		% within EthnicOrigin	**26.3%**	**21.1%**	**52.6%**	100.0%
		% within Transmission through spoons and filters	35.7%	14.8%	33.3%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	.6	1.1	1.3	3.0
		% within EthnicOrigin	33.3%	.0%	66.7%	100.0%
		% within Transmission through spoons and filters	7.1%	.0%	6.7%	4.2%
	India	Count	6	11	15	32
		Expected Count	6.3	12.2	13.5	32.0
		% within EthnicOrigin	**18.8%**	**34.4%**	**46.9%**	100.0%
		% within Transmission through spoons and filters	42.9%	40.7%	50.0%	45.1%
	Sri-Lanka	Count	1	6	1	8
		Expected Count	1.6	3.0	3.4	8.0
		% within EthnicOrigin	**12.5%**	**75.0%**	**12.5%**	100.0%

		% within Transmission through spoons and filters	7.1%	22.2%	3.3%	11.3%
	Bangladesh	Count	1	6	2	9
		Expected Count	1.8	3.4	3.8	9.0
		% within EthnicOrigin	**11.1%**	**66.7%**	**22.2%**	100.0%
		% within Transmission through spoons and filters	7.1%	22.2%	6.7%	12.7%
Total		Count	14	27	30	71
		Expected Count	14.0	27.0	30.0	71.0
		% within EthnicOrigin	19.7%	38.0%	42.3%	100.0%
		% within Transmission through spoons and filters	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Vertical transmission

Crosstab

			Vertical transmission			Total
			Yes	Not Sure	No	
EthnicOrigin	Pakistan	Count	7	8	4	19
		Expected Count	4.8	11.5	2.7	19.0
		% within EthnicOrigin	**36.8%**	**42.1%**	**21.1%**	100.0%
		% within Vertical transmission	38.9%	18.6%	40.0%	26.8%
	Not mentioned	Count	0	3	0	3
		Expected Count	.8	1.8	.4	3.0
		% within EthnicOrigin	.0%	100.0%	.0%	100.0%
		% within Vertical transmission	.0%	7.0%	.0%	4.2%
	India	Count	7	21	4	32
		Expected Count	8.1	19.4	4.5	32.0
		% within EthnicOrigin	**21.9%**	**65.6%**	**12.5%**	100.0%
		% within Vertical transmission	38.9%	48.8%	40.0%	45.1%
	Sri-Lanka	Count	2	5	1	8
		Expected Count	2.0	4.8	1.1	8.0
		% within EthnicOrigin	**25.0%**	**62.5%**	**12.5%**	100.0%
		% within Vertical transmission	11.1%	11.6%	10.0%	11.3%
	Bangladesh	Count	2	6	1	9
		Expected Count	2.3	5.5	1.3	9.0
		% within EthnicOrigin	**22.2%**	**66.7%**	**11.1%**	100.0%

		% within Vertical transmission	11.1%	14.0%	10.0%	12.7%
Total		Count	18	43	10	71
		Expected Count	18.0	43.0	10.0	71.0
		% within EthnicOrigin	25.4%	60.6%	14.1%	100.0%
		% within Vertical transmission	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Has Hepatitis C got a vaccine?

Crosstab

			Has Hepatitis C got a vaccine?			Total
			Yes	Not Sure	No	
EthnicOrigin	Pakistan	Count	13	5	1	19
		Expected Count	8.6	8.6	1.9	19.0
		% within EthnicOrigin	68.4%	26.3%	5.3%	100.0%
		% within Has Hepatitis C got a vaccine?	40.6%	15.6%	14.3%	26.8%
	Not mentioned	Count	1	1	1	3
		Expected Count	1.4	1.4	.3	3.0
		% within EthnicOrigin	33.3%	33.3%	33.3%	100.0%
		% within Has Hepatitis C got a vaccine?	3.1%	3.1%	14.3%	4.2%
	India	Count	11	17	4	32
		Expected Count	14.4	14.4	3.2	32.0
		% within EthnicOrigin	34.4%	53.1%	12.5%	100.0%
		% within Has Hepatitis C got a vaccine?	34.4%	53.1%	57.1%	45.1%
	Sri-Lanka	Count	5	3	0	8
		Expected Count	3.6	3.6	.8	8.0
		% within EthnicOrigin	62.5%	37.5%	.0%	100.0%
		% within Has Hepatitis C got a vaccine?	15.6%	9.4%	.0%	11.3%
	Bangladesh	Count	2	6	1	9
		Expected Count	4.1	4.1	.9	9.0
		% within EthnicOrigin	22.2%	66.7%	11.1%	100.0%
		% within Has Hepatitis C got a vaccine?	6.3%	18.8%	14.3%	12.7%
Total		Count	32	32	7	71
		Expected Count	32.0	32.0	7.0	71.0
		% within EthnicOrigin	45.1%	45.1%	9.9%	100.0%
		% within Has Hepatitis C got a vaccine?	100.0%	100.0%	100.0%	100.0%

EthnicOrigin * Is Hepatitis C more prevalent in the world or HIV/AIDS

Crosstab

			Is Hepatitis C more prevalent in the world or HIV/AIDS			
			AIDS	Not sure	Hepatitis C	Total
EthnicOrigin	Pakistan	Count	13	0	6	19
		Expected Count	12.6	.8	5.6	19.0
		% within EthnicOrigin	68.4%	.0%	31.6%	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	27.7%	.0%	28.6%	26.8%
	Not mentioned	Count	2	0	1	3
		Expected Count	2.0	.1	.9	3.0
		% within EthnicOrigin	66.7%	.0%	33.3%	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	4.3%	.0%	4.8%	4.2%
	India	Count	20	2	10	32
		Expected Count	21.2	1.4	9.5	32.0
		% within EthnicOrigin	62.5%	6.3%	31.3%	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	42.6%	66.7%	47.6%	45.1%
	Sri-Lanka	Count	6	0	2	8
		Expected Count	5.3	.3	2.4	8.0
		% within EthnicOrigin	75.0%	.0%	25.0%	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	12.8%	.0%	9.5%	11.3%
	Bangladesh	Count	6	1	2	9
		Expected Count	6.0	.4	2.7	9.0
		% within EthnicOrigin	66.7%	11.1%	22.2%	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	12.8%	33.3%	9.5%	12.7%
Total		Count	47	3	21	71
		Expected Count	47.0	3.0	21.0	71.0
		% within EthnicOrigin	66.2%	4.2%	29.6%	100.0%
		% within Is Hepatitis C more prevalent in the	100.0%	100.0%	100.0%	100.0%

		world or HIV/AIDS				

EthnicOrigin * Prevalence according to areas

Crosstab

			Prevalence according to areas				
			Africa	Not sure	South Asia	Europe	Total
EthnicOrigin	Pakistan	Count	6	0	8	5	1
		Expected Count	5.4	.8	9.6	3.2	19
		% within EthnicOrigin	31.6%	.0%	42.1%	26.3%	100.0
		% within Prevalence according to areas	30.0%	.0%	22.2%	41.7%	26.8
	Not mentioned	Count	0	0	3	0	
		Expected Count	.8	.1	1.5	.5	3
		% within EthnicOrigin	.0%	.0%	100.0%	.0%	100.0
		% within Prevalence according to areas	.0%	.0%	8.3%	.0%	4.2
	India	Count	10	3	15	4	3
		Expected Count	9.0	1.4	16.2	5.4	32
		% within EthnicOrigin	31.3%	9.4%	46.9%	12.5%	100.0
		% within Prevalence according to areas	50.0%	100.0%	41.7%	33.3%	45.1
	Sri-Lanka	Count	2	0	5	1	
		Expected Count	2.3	.3	4.1	1.4	8
		% within EthnicOrigin	25.0%	.0%	62.5%	12.5%	100.0
		% within Prevalence according to areas	10.0%	.0%	13.9%	8.3%	11.3
	Bangladesh	Count	2	0	5	2	
		Expected Count	2.5	.4	4.6	1.5	9
		% within EthnicOrigin	22.2%	.0%	55.6%	22.2%	100.0
		% within Prevalence according to areas	10.0%	.0%	13.9%	16.7%	12.7
Total		Count	20	3	36	12	7
		Expected Count	20.0	3.0	36.0	12.0	71
		% within EthnicOrigin	28.2%	4.2%	50.7%	16.9%	100.0
		% within Prevalence according to areas	100.0%	100.0%	100.0%	100.0%	100.0

EthnicOrigin * Carries prolonged illness or short period of illness leading to death?

Crosstab

			Carries prolonged illness or short period of illness leading to death?			
			Long Period illness	Not sure	Short Period illness	Total
EthnicOrigin	Pakistan	Count	11	0	8	19
		Expected Count	9.6	.3	9.1	19.0
		% within EthnicOrigin	**57.9%**	**.0%**	**42.1%**	100.0%
		% within Carries prolonged illness or short period of illness leading to death?	30.6%	.0%	23.5%	26.8%
	Not mentioned	Count	1	0	2	3
		Expected Count	1.5	.0	1.4	3.0
		% within EthnicOrigin	33.3%	.0%	66.7%	100.0%
		% within Carries prolonged illness or short period of illness leading to death?	2.8%	.0%	5.9%	4.2%
	India	Count	16	1	15	32
		Expected Count	16.2	.5	15.3	32.0
		% within EthnicOrigin	**50.0%**	**3.1%**	**46.9%**	100.0%
		% within Carries prolonged illness or short period of illness leading to death?	44.4%	100.0%	44.1%	45.1%
	Sri-Lanka	Count	4	0	4	8
		Expected Count	4.1	.1	3.8	8.0
		% within EthnicOrigin	**50.0%**	**.0%**	**50.0%**	100.0%
		% within Carries prolonged illness or short period of illness leading to death?	11.1%	.0%	11.8%	11.3%
	Bangladesh	Count	4	0	5	9
		Expected Count	4.6	.1	4.3	9.0
		% within EthnicOrigin	44.4%	.0%	55.6%	100.0%
		% within Carries prolonged illness or short period of illness leading to death?	11.1%	.0%	14.7%	12.7%
Total		Count	36	1	34	71
		Expected Count	**36.0**	**1.0**	**34.0**	71.0
		% within EthnicOrigin	50.7%	1.4%	47.9%	100.0%

	% within Carries prolonged illness or short period of illness leading to death?	100.0%	100.0%	100.0%	100.0%

1.2.4. Cross tabulations of Age group with the responses:

AgeGroup * Do you know about the common symptoms faced after exposure to Hepatitis C?

Crosstab

			Do you know about the common symptoms faced after exposure to Hepatitis C?			
			Yes	Not Sure	No	Total
AgeGroup	< 25	Count	5	14	0	19
		Expected Count	7.5	10.4	1.1	19.0
		% within AgeGroup	**26.3%**	**73.7%**	**.0%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	17.9%	35.9%	.0%	26.8%
	25-30	Count	16	19	4	39
		Expected Count	15.4	21.4	2.2	39.0
		% within AgeGroup	**41.0%**	**48.7%**	**10.3%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	57.1%	48.7%	100.0%	54.9%
	>30	Count	7	6	0	13
		Expected Count	5.1	7.1	.7	13.0
		% within AgeGroup	**53.8%**	**46.2%**	**.0%**	100.0%
		% within Do you know about the common symptoms faced after exposure to Hepatitis C?	25.0%	15.4%	.0%	18.3%
Total		Count	28	39	4	71

	Expected Count	28.0	39.0	4.0	71.0
	% within AgeGroup	39.4%	54.9%	5.6%	100.0%
	% within Do you know about the common symptoms faced after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.494(a)	4	.165
Likelihood Ratio	7.947	4	.094
Linear-by-Linear Association	1.510	1	.219
N of Valid Cases	71		

a 3 cells (33.3%) have expected count less than 5. The minimum expected count is .73.

AgeGroup * Can jaundice be symptom of Hepatitis C?

Crosstab

			Can jaundice be symptom of Hepatitis C?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	11	6	2	19
		Expected Count	12.5	4.9	1.6	19.0
		% within AgeGroup	**57.9%**	**31.6%**	**10.5%**	**100.0%**
		% within Can jaundice be symptom of Hepatitis C?	23.9%	33.3%	33.3%	*27.1%*
	25-30	Count	26	8	4	38
		Expected Count	25.0	9.8	3.3	38.0
		% within AgeGroup	**68.4%**	**21.1%**	**10.5%**	**100.0%**
		% within Can jaundice be symptom of Hepatitis C?	56.5%	44.4%	66.7%	*54.3%*
	>30	Count	9	4	0	13
		Expected Count	8.5	3.3	1.1	13.0
		% within AgeGroup	**69.2%**	**30.8%**	**.0%**	100.0%
		% within Can jaundice be symptom of Hepatitis C?	19.6%	22.2%	.0%	*18.6%*
Total		Count	46	18	6	70
		Expected Count	46.0	18.0	6.0	70.0
		% within	65.7%	25.7%	8.6%	100.0%

	AgeGroup % within Can jaundice be symptom of Hepatitis C?	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.316(a)	4	.678
Likelihood Ratio	3.416	4	.491
Linear-by-Linear Association	.884	1	.347
N of Valid Cases	70		

a 5 cells (55.6%) have expected count less than 5. The minimum expected count is 1.11.

AgeGroup * Can flu like symptoms be felt after exposure to Hepatitis?

Crosstab

			Can flu like symptoms be felt after exposure to Hepatitis?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	4	10	5	19
		Expected Count	6.0	8.4	4.6	19.0
		% within AgeGroup	**21.1%**	**52.6%**	**26.3%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	18.2%	32.3%	29.4%	27.1%
	25-30	Count	11	16	11	38
		Expected Count	11.9	16.8	9.2	38.0
		% within AgeGroup	**28.9%**	**42.1%**	**28.9%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	50.0%	51.6%	64.7%	54.3%
	>30	Count	7	5	1	13
		Expected Count	4.1	5.8	3.2	13.0
		% within AgeGroup	**53.8%**	**38.5%**	**7.7%**	100.0%
		% within Can flu like symptoms be felt after exposure to Hepatitis?	31.8%	16.1%	5.9%	18.6%
Total		Count	22	31	17	70
		Expected Count	22.0	31.0	17.0	70.0

	% within AgeGroup	31.4%	44.3%	24.3%	100.0%
	% within Can flu like symptoms be felt after exposure to Hepatitis?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Can abdominal pain be felt after exposure to Hepatitis C?

Crosstab

			Can abdominal pain be felt after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	4	9	6	19
		Expected Count	7.1	7.1	4.9	19.0
		% within AgeGroup	**21.1%**	**47.4%**	**31.6%**	**100.0%**
		% within Can abdominal pain be felt after exposure to Hepatitis C?	15.4%	34.6%	33.3%	27.1%
	25-30	Count	16	11	11	38
		Expected Count	14.1	14.1	9.8	38.0
		% within AgeGroup	**42.1%**	**28.9%**	**28.9%**	**100.0%**
		% within Can abdominal pain be felt after exposure to Hepatitis C?	61.5%	42.3%	61.1%	54.3%
	>30	Count	6	6	1	13
		Expected Count	4.8	4.8	3.3	13.0
		% within AgeGroup	**46.2%**	**46.2%**	**7.7%**	**100.0%**
		% within Can abdominal pain be felt after exposure to Hepatitis C?	23.1%	23.1%	5.6%	18.6%
Total		Count	26	26	18	70
		Expected Count	26.0	26.0	18.0	70.0
		% within AgeGroup	37.1%	37.1%	25.7%	100.0%
		% within Can abdominal pain be felt after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Can weight loss be faced after exposure to Hepatitis C?

Crosstab

			Can weight loss be faced after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	2	9	8	19
		Expected Count	5.7	7.3	6.0	19.0
		% within AgeGroup	**10.5%**	**47.4%**	**42.1%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	9.5%	33.3%	36.4%	27.1%
	25-30	Count	15	11	12	38
		Expected Count	11.4	14.7	11.9	38.0
		% within AgeGroup	**39.5%**	**28.9%**	**31.6%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	71.4%	40.7%	54.5%	54.3%
	>30	Count	4	7	2	13
		Expected Count	3.9	5.0	4.1	13.0
		% within AgeGroup	**30.8%**	**53.8%**	**15.4%**	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	19.0%	25.9%	9.1%	18.6%
Total		Count	21	27	22	70
		Expected Count	21.0	27.0	22.0	70.0
		% within AgeGroup	30.0%	38.6%	31.4%	100.0%
		% within Can weight loss be faced after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Can Generalized weakness be felt after exposure to Hepatitis C?

Crosstab

			Can Generalized weakness be felt after exposure to Hepatitis C?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	3	9	7	19
		Expected Count	4.6	8.4	6.0	19.0
		% within AgeGroup	**15.8%**	**47.4%**	**36.8%**	100.0%
		% within Can Generalized weakness be	17.6%	29.0%	31.8%	27.1%

		felt after exposure to Hepatitis C?				
	25-30	Count	10	16	12	38
		Expected Count	9.2	16.8	11.9	38.0
		% within AgeGroup	**26.3%**	**42.1%**	**31.6%**	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	58.8%	51.6%	54.5%	54.3%
	>30	Count	4	6	3	13
		Expected Count	3.2	5.8	4.1	13.0
		% within AgeGroup	**30.8%**	**46.2%**	**23.1%**	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	23.5%	19.4%	13.6%	18.6%
Total		Count	17	31	22	70
		Expected Count	17.0	31.0	22.0	70.0
		% within AgeGroup	24.3%	44.3%	31.4%	100.0%
		% within Can Generalized weakness be felt after exposure to Hepatitis C?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Is Hepatitis C a curable infection?

Crosstab

			Is Hepatitis C a curable infection?			Total
			Yes	Not Sure	No	
AgeGroup	< 25	Count	6	10	3	19
		Expected Count	6.4	9.6	2.9	19.0
		% within AgeGroup	**31.6%**	**52.6%**	**15.8%**	**100.0%**
		% within Is Hepatitis C a curable infection?	25.0%	27.8%	27.3%	26.8%
	25-30	Count	13	20	6	39
		Expected Count	13.2	19.8	6.0	39.0
		% within AgeGroup	**33.3%**	**51.3%**	**15.4%**	**100.0%**
		% within Is Hepatitis C a curable infection?	54.2%	55.6%	54.5%	54.9%

	>30	Count	5	6	2	13
		Expected Count	4.4	6.6	2.0	13.0
		% within AgeGroup	**38.5%**	**46.2%**	**15.4%**	**100.0%**
		% within Is Hepatitis C a curable infection?	20.8%	16.7%	18.2%	18.3%
Total		Count	24	36	11	71
		Expected Count	24.0	36.0	11.0	71.0
		% within AgeGroup	33.8%	50.7%	15.5%	100.0%
		% within Is Hepatitis C a curable infection?	100.0%	100.0%	100.0%	100.0%

Age Group * how does hep c spread

Crosstab

			How does Hepatitis C spread?			
			Yes	Not Sure	No	Total
AgeGroup	< 25	Count	2	16	1	19
		Expected Count	7.2	10.4	1.3	19.0
		% within AgeGroup	**10.5%**	**84.2%**	**5.3%**	**100.0%**
		% within How does Hepatitis C spread?	7.4%	41.0%	20.0%	26.8%
	25-30	Count	18	19	2	39
		Expected Count	14.8	21.4	2.7	39.0
		% within AgeGroup	**46.2%**	**48.7%**	**5.1%**	**100.0%**
		% within How does Hepatitis C spread?	66.7%	48.7%	40.0%	54.9%
	>30	Count	7	4	2	13
		Expected Count	4.9	7.1	.9	13.0
		% within AgeGroup	**53.8%**	**30.8%**	**15.4%**	**100.0%**
		% within How does Hepatitis C spread?	25.9%	10.3%	40.0%	18.3%
Total		Count	27	39	5	71
		Expected Count	27.0	39.0	5.0	71.0
		% within AgeGroup	38.0%	54.9%	7.0%	100.0%
		% within How does Hepatitis C	100.0%	100.0%	100.0%	100.0%

		spread?				

AgeGroup * Transmission by close contacts

Crosstab

			Transmission by close contacts			
			Yes	Not Sure	No	Total
AgeGroup	< 25	Count	5	11	3	19
		Expected Count	6.7	7.8	4.5	19.0
		% within AgeGroup	**26.3%**	**57.9%**	**15.8%**	100.0%
		% within Transmission by close contacts	20.0%	37.9%	17.6%	26.8%
	25-30	Count	18	12	9	39
		Expected Count	13.7	15.9	9.3	39.0
		% within AgeGroup	**46.2%**	**30.8%**	**23.1%**	100.0%
		% within Transmission by close contacts	72.0%	41.4%	52.9%	54.9%
	>30	Count	2	6	5	13
		Expected Count	4.6	5.3	3.1	13.0
		% within AgeGroup	**15.4%**	**46.2%**	**38.5%**	100.0%
		% within Transmission by close contacts	8.0%	20.7%	29.4%	18.3%
Total		Count	25	29	17	71
		Expected Count	25.0	29.0	17.0	71.0
		% within AgeGroup	35.2%	40.8%	23.9%	100.0%
		% within Transmission by close contacts	100.0%	100.0%	100.0%	100.0%

Age * transmission through kissing

Crosstab

			Transmission through kissing			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	5	9	5	19
		Expected Count	5.9	7.5	5.6	19.0
		% within AgeGroup	**26.3%**	**47.4%**	**26.3%**	100.0%
		% within Transmission through	22.7%	32.1%	23.8%	26.8%

		kissing				
	25-30	Count	14	13	12	39
		Expected Count	12.1	15.4	11.5	39.0
		% within AgeGroup	**35.9%**	**33.3%**	**30.8%**	100.0%
		% within Transmission through kissing	63.6%	46.4%	57.1%	54.9%
	>30	Count	3	6	4	13
		Expected Count	4.0	5.1	3.8	13.0
		% within AgeGroup	**23.1%**	**46.2%**	**30.8%**	100.0%
		% within Transmission through kissing	13.6%	21.4%	19.0%	18.3%
Total		Count	22	28	21	71
		Expected Count	22.0	28.0	21.0	71.0
		% within AgeGroup	31.0%	39.4%	29.6%	100.0%
		% within Transmission through kissing	100.0%	100.0%	100.0%	100.0%

Age Group* Transmission through hugging

Crosstab

			Transmission through hugging			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	2	10	7	19
		Expected Count	2.1	9.1	7.8	19.0
		% within AgeGroup	**10.5%**	**52.6%**	**36.8%**	100.0%
		% within Transmission through hugging	25.0%	29.4%	24.1%	26.8%
	25-30	Count	6	17	16	39
		Expected Count	4.4	18.7	15.9	39.0
		% within AgeGroup	**15.4%**	**43.6%**	**41.0%**	100.0%
		% within Transmission through hugging	75.0%	50.0%	55.2%	54.9%
	>30	Count	0	7	6	13
		Expected Count	1.5	6.2	5.3	13.0
		% within AgeGroup	**.0%**	**53.8%**	**46.2%**	100.0%
		% within Transmission through hugging	.0%	20.6%	20.7%	18.3%

Total		Count	8	34	29	71
		Expected Count	8.0	34.0	29.0	71.0
		% within AgeGroup	11.3%	47.9%	40.8%	100.0%
		% within Transmission through hugging	100.0%	100.0%	100.0%	100.0%

AgeGroup * Transmission through handshaking

Crosstab

			Transmission through handshaking			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	2	10	7	19
		Expected Count	1.6	9.1	8.3	19.0
		% within AgeGroup	10.5%	52.6%	36.8%	100.0%
		% within Transmission through handshaking	33.3%	29.4%	22.6%	26.8%
	25-30	Count	4	17	18	39
		Expected Count	3.3	18.7	17.0	39.0
		% within AgeGroup	10.3%	43.6%	46.2%	100.0%
		% within Transmission through handshaking	66.7%	50.0%	58.1%	54.9%
	>30	Count	0	7	6	13
		Expected Count	1.1	6.2	5.7	13.0
		% within AgeGroup	.0%	53.8%	46.2%	100.0%
		% within Transmission through handshaking	.0%	20.6%	19.4%	18.3%
Total		Count	6	34	31	71
		Expected Count	6.0	34.0	31.0	71.0
		% within AgeGroup	8.5%	47.9%	43.7%	100.0%
		% within Transmission through handshaking	100.0%	100.0%	100.0%	100.0%

Age G * Transmission through eating utensils

Crosstab

		Transmission through sharing eating utensils			
		Yes	Not sure	No	Total

AgeGroup	< 25	Count	6	7	6	19
		Expected Count	4.5	7.8	6.7	19.0
		% within AgeGroup	**31.6%**	**36.8%**	**31.6%**	100.0%
		% within Transmission through sharing eating utensils	35.3%	24.1%	24.0%	26.8%
	25-30	Count	10	16	13	39
		Expected Count	9.3	15.9	13.7	39.0
		% within AgeGroup	**25.6%**	**41.0%**	**33.3%**	100.0%
		% within Transmission through sharing eating utensils	58.8%	55.2%	52.0%	54.9%
	>30	Count	1	6	6	13
		Expected Count	3.1	5.3	4.6	13.0
		% within AgeGroup	**7.7%**	**46.2%**	**46.2%**	100.0%
		% within Transmission through sharing eating utensils	5.9%	20.7%	24.0%	18.3%
Total		Count	17	29	25	71
		Expected Count	17.0	29.0	25.0	71.0
		% within AgeGroup	**23.9%**	**40.8%**	**35.2%**	100.0%
		% within Transmission through sharing eating utensils	100.0%	100.0%	100.0%	100.0%

AgeGroup * Can Hepatitis C spread through blood?

Crosstab

			Can Hepatitis C spread through blood?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	14	2	3	19
		Expected Count	13.1	3.5	2.4	19.0
		% within AgeGroup	**73.7%**	**10.5%**	**15.8%**	100.0%
		% within Can Hepatitis C spread through blood?	28.6%	15.4%	33.3%	26.8%
	25-30	Count	27	7	5	39
		Expected Count	26.9	7.1	4.9	39.0
		% within AgeGroup	**69.2%**	**17.9%**	**12.8%**	100.0%

		% within Can Hepatitis C spread through blood?	55.1%	53.8%	55.6%	54.9%
	>30	Count	8	4	1	13
		Expected Count	9.0	2.4	1.6	13.0
		% within AgeGroup	**61.5%**	**30.8%**	**7.7%**	100.0%
		% within Can Hepatitis C spread through blood?	16.3%	30.8%	11.1%	18.3%
Total		Count	49	13	9	71
		Expected Count	49.0	13.0	9.0	71.0
		% within AgeGroup	69.0%	18.3%	12.7%	100.0%
		% within Can Hepatitis C spread through blood?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Can Hepatitis C spread through water?

Crosstab

			Can Hepatitis C spread through water?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	7	7	5	19
		Expected Count	8.0	5.9	5.1	19.0
		% within AgeGroup	**36.8%**	**36.8%**	**26.3%**	100.0%
		% within Can Hepatitis C spread through water?	23.3%	31.8%	26.3%	26.8%
	25-30	Count	18	10	11	39
		Expected Count	16.5	12.1	10.4	39.0
		% within AgeGroup	**46.2%**	**25.6%**	**28.2%**	100.0%
		% within Can Hepatitis C spread through water?	60.0%	45.5%	57.9%	54.9%
	>30	Count	5	5	3	13
		Expected Count	5.5	4.0	3.5	13.0
		% within AgeGroup	**38.5%**	**38.5%**	**23.1%**	100.0%
		% within Can Hepatitis C spread through water?	16.7%	22.7%	15.8%	18.3%
Total		Count	30	22	19	71
		Expected Count	30.0	22.0	19.0	71.0
		% within AgeGroup	42.3%	31.0%	26.8%	100.0%

	% within Can Hepatitis C spread through water?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Can Hepatitis C spread through air?

Crosstab

			Can Hepatitis C spread through air?			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	1	10	8	19
		Expected Count	1.6	9.1	8.3	19.0
		% within AgeGroup	**5.3%**	**52.6%**	**42.1%**	100.0%
		% within Can Hepatitis C spread through air?	16.7%	29.4%	25.8%	26.8%
	25-30	Count	3	17	19	39
		Expected Count	3.3	18.7	17.0	39.0
		% within AgeGroup	**7.7%**	**43.6%**	**48.7%**	100.0%
		% within Can Hepatitis C spread through air?	50.0%	50.0%	61.3%	54.9%
	>30	Count	2	7	4	13
		Expected Count	1.1	6.2	5.7	13.0
		% within AgeGroup	**15.4%**	**53.8%**	**30.8%**	100.0%
		% within Can Hepatitis C spread through air?	33.3%	20.6%	12.9%	18.3%
Total		Count	6	34	31	71
		Expected Count	6.0	34.0	31.0	71.0
		% within AgeGroup	8.5%	47.9%	43.7%	100.0%
		% within Can Hepatitis C spread through air?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Transmission through contaminated needles

Crosstab

			Transmission through contaminated needles			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	15	3	1	19
		Expected Count	14.2	3.2	1.6	19.0
		% within AgeGroup	**78.9%**	**15.8%**	**5.3%**	**100.0%**

		% within Transmission through contaminated needles	28.3%	25.0%	16.7%	26.8%
	25-30	Count	33	5	1	39
		Expected Count	29.1	6.6	3.3	39.0
		% within AgeGroup	**84.6%**	**12.8%**	**2.6%**	**100.0%**
		% within Transmission through contaminated needles	62.3%	41.7%	16.7%	54.9%
	>30	Count	5	4	4	13
		Expected Count	9.7	2.2	1.1	13.0
		% within AgeGroup	**38.5%**	**30.8%**	**30.8%**	**100.0%**
		% within Transmission through contaminated needles	9.4%	33.3%	66.7%	18.3%
Total		Count	53	12	6	71
		Expected Count	53.0	12.0	6.0	71.0
		% within AgeGroup	74.6%	16.9%	8.5%	100.0%
		% within Transmission through contaminated needles	100.0%	100.0%	100.0%	100.0%

AgeGroup * Transmission through contaminated shaving blades

Crosstab

			Transmission through contaminated shaving blades			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	12	6	1	19
		Expected Count	11.2	4.8	2.9	19.0
		% within AgeGroup	**63.2%**	**31.6%**	**5.3%**	**100.0%**
		% within Transmission through contaminated shaving blades	28.6%	33.3%	9.1%	26.8%
	25-30	Count	24	8	7	39
		Expected Count	23.1	9.9	6.0	39.0
		% within AgeGroup	**61.5%**	**20.5%**	**17.9%**	**100.0%**

		% within Transmission through contaminated shaving blades	57.1%	44.4%	63.6%	54.9%
	>30	Count	6	4	3	13
		Expected Count	7.7	3.3	2.0	13.0
		% within AgeGroup	**46.2%**	**30.8%**	**23.1%**	**100.0%**
		% within Transmission through contaminated shaving blades	14.3%	22.2%	27.3%	18.3%
Total		Count	42	18	11	71
		Expected Count	42.0	18.0	11.0	71.0
		% within AgeGroup	**59.2%**	**25.4%**	**15.5%**	**100.0%**
		% within Transmission through contaminated shaving blades	100.0%	100.0%	100.0%	100.0%

AgeGroup * Transmitted through sharing tooth brushes

Crosstab

			Transmitted through sharing tooth brushes			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	3	7	9	19
		Expected Count	6.2	4.8	8.0	19.0
		% within AgeGroup	**15.8%**	**36.8%**	**47.4%**	100.0%
		% within Transmitted through sharing tooth brushes	13.0%	38.9%	30.0%	26.8%
	25-30	Count	13	11	15	39
		Expected Count	12.6	9.9	16.5	39.0
		% within AgeGroup	**33.3%**	**28.2%**	**38.5%**	100.0%
		% within Transmitted through sharing tooth brushes	56.5%	61.1%	50.0%	54.9%
	>30	Count	7	0	6	13
		Expected Count	4.2	3.3	5.5	13.0
		% within AgeGroup	**53.8%**	**.0%**	**46.2%**	100.0%

		% within Transmitted through sharing tooth brushes	30.4%	.0%	20.0%	18.3%
Total		Count	23	18	30	71
		Expected Count	23.0	18.0	30.0	71.0
		% within AgeGroup	32.4%	25.4%	42.3%	100.0%
		% within Transmitted through sharing tooth brushes	100.0%	100.0%	100.0%	100.0%

AgeGroup * Transmission through surgical instruments

Crosstab

			Transmission through surgical instruments			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	9	5	5	19
		Expected Count	8.0	4.8	6.2	19.0
		% within AgeGroup	47.4%	26.3%	26.3%	100.0%
		% within Transmission through surgical instruments	30.0%	27.8%	21.7%	26.8%
	25-30	Count	15	9	15	39
		Expected Count	16.5	9.9	12.6	39.0
		% within AgeGroup	38.5%	23.1%	38.5%	100.0%
		% within Transmission through surgical instruments	50.0%	50.0%	65.2%	54.9%
	>30	Count	6	4	3	13
		Expected Count	5.5	3.3	4.2	13.0
		% within AgeGroup	46.2%	30.8%	23.1%	100.0%
		% within Transmission through surgical instruments	20.0%	22.2%	13.0%	18.3%
Total		Count	30	18	23	71
		Expected Count	30.0	18.0	23.0	71.0
		% within AgeGroup	42.3%	25.4%	32.4%	100.0%
		% within Transmission through surgical	100.0%	100.0%	100.0%	100.0%

		instruments				

AgeGroup * Transmission through blood transfusion

Crosstab

			Transmission through blood transfusion			Total
			Yes	Not sure	No	
AgeGroup	< 25	Count	12	3	4	19
		Expected Count	9.9	2.7	6.4	19.0
		% within AgeGroup	63.2%	15.8%	21.1%	100.0%
		% within Transmission through blood transfusion	32.4%	30.0%	16.7%	26.8%
	25-30	Count	17	5	17	39
		Expected Count	20.3	5.5	13.2	39.0
		% within AgeGroup	43.6%	12.8%	43.6%	100.0%
		% within Transmission through blood transfusion	45.9%	50.0%	70.8%	54.9%
	>30	Count	8	2	3	13
		Expected Count	6.8	1.8	4.4	13.0
		% within AgeGroup	61.5%	15.4%	23.1%	100.0%
		% within Transmission through blood transfusion	21.6%	20.0%	12.5%	18.3%
Total		Count	37	10	24	71
		Expected Count	37.0	10.0	24.0	71.0
		% within AgeGroup	52.1%	14.1%	33.8%	100.0%
		% within Transmission through blood transfusion	100.0%	100.0%	100.0%	100.0%

AgeGroup * Transmission through unprotected sex

Crosstab

			Transmission through unprotected sex			Total
			Yes	Not sure	No	
AgeGroup	< 25	Count	5	7	7	19
		Expected Count	5.6	5.9	7.5	19.0
		% within AgeGroup	**26.3%**	**36.8%**	**36.8%**	100.0%

		% within Transmission through unprotected sex	23.8%	31.8%	25.0%	26.8%
	25-30	Count	11	10	18	39
		Expected Count	11.5	12.1	15.4	39.0
		% within AgeGroup	**28.2%**	**25.6%**	**46.2%**	100.0%
		% within Transmission through unprotected sex	52.4%	45.5%	64.3%	54.9%
	>30	Count	5	5	3	13
		Expected Count	3.8	4.0	5.1	13.0
		% within AgeGroup	**38.5%**	**38.5%**	**23.1%**	100.0%
		% within Transmission through unprotected sex	23.8%	22.7%	10.7%	18.3%
Total		Count	21	22	28	71
		Expected Count	21.0	22.0	28.0	71.0
		% within AgeGroup	29.6%	31.0%	39.4%	100.0%
		% within Transmission through unprotected sex	100.0%	100.0%	100.0%	100.0%

AgeGroup * Transmission through spoons and filters

Crosstab

			Transmission through spoons and filters			
			Yes	Not sure	No	Total
AgeGroup	< 25	Count	3	8	8	19
		Expected Count	3.7	7.2	8.0	19.0
		% within AgeGroup	**15.8%**	**42.1%**	**42.1%**	100.0%
		% within Transmission through spoons and filters	21.4%	29.6%	26.7%	26.8%
	25-30	Count	9	12	18	39
		Expected Count	7.7	14.8	16.5	39.0
		% within AgeGroup	**23.1%**	**30.8%**	**46.2%**	100.0%
		% within Transmission through spoons and	64.3%	44.4%	60.0%	54.9%

		filters				
	>30	Count	2	7	4	13
		Expected Count	2.6	4.9	5.5	13.0
		% within AgeGroup	**15.4%**	**53.8%**	**30.8%**	100.0%
		% within Transmission through spoons and filters	14.3%	25.9%	13.3%	18.3%
Total		Count	14	27	30	71
		Expected Count	14.0	27.0	30.0	71.0
		% within AgeGroup	19.7%	38.0%	42.3%	100.0%
		% within Transmission through spoons and filters	100.0%	100.0%	100.0%	100.0%

AgeGroup * Vertical transmission

Crosstab

			Vertical transmission			Total
			Yes	Not Sure	No	
AgeGroup	< 25	Count	4	13	2	19
		Expected Count	4.8	11.5	2.7	19.0
		% within AgeGroup	21.1%	68.4%	10.5%	100.0%
		% within Vertical transmission	22.2%	30.2%	20.0%	26.8%
	25-30	Count	11	22	6	39
		Expected Count	9.9	23.6	5.5	39.0
		% within AgeGroup	28.2%	56.4%	15.4%	100.0%
		% within Vertical transmission	61.1%	51.2%	60.0%	54.9%
	>30	Count	3	8	2	13
		Expected Count	3.3	7.9	1.8	13.0
		% within AgeGroup	23.1%	61.5%	15.4%	100.0%
		% within Vertical transmission	16.7%	18.6%	20.0%	18.3%
Total		Count	18	43	10	71
		Expected Count	18.0	43.0	10.0	71.0
		% within AgeGroup	25.4%	60.6%	14.1%	100.0%
		% within Vertical transmission	100.0%	100.0%	100.0%	100.0%

AgeGroup * Has Hepatitis C got a vaccine?

Crosstab

			Has Hepatitis C got a vaccine?			Total
			Yes	Not Sure	No	
AgeGroup	< 25	Count	9	8	2	19
		Expected Count	8.6	8.6	1.9	19.0
		% within AgeGroup	**47.4%**	**42.1%**	**10.5%**	100.0%
		% within Has Hepatitis C got a vaccine?	28.1%	25.0%	28.6%	26.8%
	25-30	Count	16	21	2	39
		Expected Count	17.6	17.6	3.8	39.0
		% within AgeGroup	**41.0%**	**53.8%**	**5.1%**	100.0%
		% within Has Hepatitis C got a vaccine?	50.0%	65.6%	28.6%	54.9%
	>30	Count	7	3	3	13
		Expected Count	5.9	5.9	1.3	13.0
		% within AgeGroup	**53.8%**	**23.1%**	**23.1%**	100.0%
		% within Has Hepatitis C got a vaccine?	21.9%	9.4%	42.9%	18.3%
Total		Count	32	32	7	71
		Expected Count	32.0	32.0	7.0	71.0
		% within AgeGroup	45.1%	45.1%	9.9%	100.0%
		% within Has Hepatitis C got a vaccine?	100.0%	100.0%	100.0%	100.0%

AgeGroup * Is Hepatitis C more prevalent in the world or HIV/AIDS

Crosstab

			Is Hepatitis C more prevalent in the world or HIV/AIDS			Total
			AIDS	Not sure	Hepatitis C	
AgeGroup	< 25	Count	12	0	7	19
		Expected Count	12.6	.8	5.6	19.0
		% within AgeGroup	**63.2%**	**.0%**	**36.8%**	100.0%
		% within Is Hepatitis C more prevalent in the world or	25.5%	.0%	33.3%	26.8%

		HIV/AIDS				
	25-30	Count	25	3	11	39
		Expected Count	25.8	1.6	11.5	39.0
		% within AgeGroup	**64.1%**	**7.7%**	**28.2%**	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	53.2%	100.0%	52.4%	54.9%
	>30	Count	10	0	3	13
		Expected Count	8.6	.5	3.8	13.0
		% within AgeGroup	**76.9%**	**.0%**	**23.1%**	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	21.3%	.0%	14.3%	18.3%
Total		Count	47	3	21	71
		Expected Count	47.0	3.0	21.0	71.0
		% within AgeGroup	66.2%	4.2%	29.6%	100.0%
		% within Is Hepatitis C more prevalent in the world or HIV/AIDS	100.0%	100.0%	100.0%	100.0%

AgeGroup * Prevalence according to areas

Crosstab

			Prevalence according to areas				
			Africa	Not sure	South Asia	Europe	Total
AgeGroup	< 25	Count	3	2	11	3	19
		Expected Count	5.4	.8	9.6	3.2	19.0
		% within AgeGroup	**15.8%**	**10.5%**	**57.9%**	**15.8%**	100.0%
		% within Prevalence according to areas	15.0%	66.7%	30.6%	25.0%	26.8%
	25-30	Count	14	1	17	7	39
		Expected Count	11.0	1.6	19.8	6.6	39.0
		% within AgeGroup	**35.9%**	**2.6%**	**43.6%**	**17.9%**	100.0%
		% within Prevalence according to areas	70.0%	33.3%	47.2%	58.3%	54.9%
	>30	Count	3	0	8	2	13

		Expected Count	3.7	.5	6.6	2.2	13.0
		% within AgeGroup	**23.1%**	**.0%**	**61.5%**	**15.4%**	100.0%
		% within Prevalence according to areas	15.0%	.0%	22.2%	16.7%	18.3%
Total		Count	20	3	36	12	71
		Expected Count	20.0	3.0	36.0	12.0	71.0
		% within AgeGroup	28.2%	4.2%	50.7%	16.9%	100.0%
		% within Prevalence according to areas	100.0%	100.0%	100.0%	100.0%	100.0%

AgeGroup * Carries prolonged illness or short period of illness leading to death?

Crosstab

			Carries prolonged illness or short period of illness leading to death?			
			Long Period illness	Not sure	Short Period illness	Total
AgeGroup	< 25	Count	10	0	9	19
		Expected Count	9.6	.3	9.1	19.0
		% within AgeGroup	52.6%	.0%	47.4%	100.0%
		% within Carries prolonged illness or short period of illness leading to death?	27.8%	.0%	26.5%	26.8%
	25-30	Count	19	1	19	39
		Expected Count	19.8	.5	18.7	39.0
		% within AgeGroup	48.7%	2.6%	48.7%	100.0%
		% within Carries prolonged illness or short period of illness leading to death?	52.8%	100.0%	55.9%	54.9%
	>30	Count	7	0	6	13
		Expected Count	6.6	.2	6.2	13.0
		% within AgeGroup	53.8%	.0%	46.2%	100.0%
		% within Carries prolonged illness or short period of illness leading	19.4%	.0%	17.6%	18.3%

	to death?				
Total	Count	36	1	34	71
	Expected Count	36.0	1.0	34.0	71.0
	% within AgeGroup	50.7%	1.4%	47.9%	100.0%
	% within Carries prolonged illness or short period of illness leading to death?	100.0%	100.0%	100.0%	100.0%